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## BECKER'S

# SPINE REVIEW

April 2013 • Vol. 2013 No. 2

## 8 Big Trends in Minimally Invasive Spine Surgery

By Laura Miller

Minimally invasive spine surgery has been available for several years, but the trend has just begun picking up steam across the country. Many surgeons who learned traditional open surgery are content with those procedures, but more spine fellows are seeking to learn minimally invasive techniques and will begin incorporating them into their practices at a faster rate than ever before.

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## 50 Spine Surgeons & Specialists Researching Biologics for Spine Treatments

By Heather Linder

Here are 50 spine surgeons and specialists with research and innovation in stem cells and biologics.

**Howard An, MD**, is the director of spine surgery and the spine fellowship at Rush University Medical Center and a member of Midwest Orthopaedics at Rush in Chicago. He has spent more than a decade researching intervertebral disc degeneration and associated factors to understand how the condition relates to lower back pain.

**Ian Armstrong, MD**, is the medical director of Southern California Spine Institute in Los Angeles. Throughout his career, Dr. Armstrong has worked on several different research projects including stem cell treatment and motion preservation technology.

**Hyun Bae, MD**, is the co-director of the spine fellowship program at Cedars-Sinai Medical Center in Los Angeles. He has spent a great deal of

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## Economics, Politics & the Independent Spine Surgeon: Q&A With Dr. Craig Callewart

By Laura Miller

Craig Callewart, MD, a spine surgeon with Methodist Hospital for Surgery in Addison, Texas, talks about how the upcoming fiscal cliff deal will impact spine practices and the steps surgeons can take to shape healthcare policy in the future.

**Q: What do spine surgeons need to know about the looming fiscal cliff discussions?**

**Dr. Craig Callewart:** The government could run out of money if the debt ceiling isn't extended. There's no way for the government to pay its obligations and no feasible way to prioritize what checks are going out, so it's expected that providers who dedicated their services for Medicare and Medicaid patients won't be paid. We all need to be prepared for several weeks of less or no pay.

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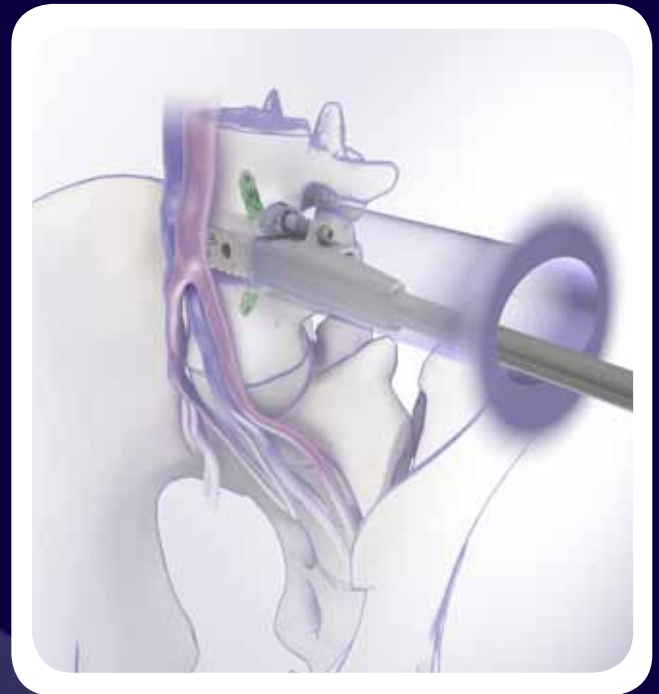
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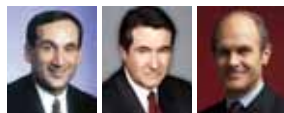
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## Publisher's Letter

This issue of *Becker's Spine Review* focuses on spine surgeon leadership, practice development and technology trends. The issue includes three big lists: "50 Spine Surgeons & Specialists Researching Biologics"; "35 Spine Device Companies Making an Impact"; and "35 Spine-Driven ASCs to Know."

Spine surgeons featured in this issue include Rush University Medical Center's Gunnar Andersson, MD, and Frank Phillips, MD, North American Spine Society Advocacy Chair John Finkenberg, MD, and The Spine Institute Medical Director Hyun Bae, MD.

Please join us for the 11<sup>th</sup> Annual Orthopedic, Spine and Pain Management-Driven ASC Conference, June 13-15 in Chicago. This world class business-focused event features 130 great speakers, 50-plus physician leaders as speakers, and 97 great business-focused sessions.

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4. Forrest Sawyer, TV journalist and entrepreneur in innovative health-care and founder of FreeFall Productions, and award-winning documentary production company.

The conference brochure and registration information is included in this issue, or you can register online at [www.regonline.com/11thorthopedicspineASC](http://www.regonline.com/11thorthopedicspineASC).

Should you have any questions or comments, please contact me at [sbecker@beckershealthcare.com](mailto:sbecker@beckershealthcare.com) or Editor-in-chief Laura Miller at [lmiller@beckershealthcare.com](mailto:lmiller@beckershealthcare.com) or President and CEO Jessica Cole at [jcole@beckershealthcare.com](mailto:jcole@beckershealthcare.com).

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## 8 Big Trends in Minimally Invasive Spine Surgery (continued from page 1)

"Minimally invasive techniques were historically used for diagnosis only. But technology advances have allowed us to improve the treatment of spine disorders using the same techniques for surgery," says Nimesh H. Patel, MD, a neurosurgeon at the Methodist Moody Brain and Spine Institute in Dallas. "It's one of the biggest advantages for patients because we are able to do spinal procedures with smaller incisions, which means less pain and blood loss. Hospital stays are also shorter."

Shorter hospital stays and reduced risk of infection have a huge economic impact on the cost of care for people with spine issues, which is one of the biggest costs to our system today. Device companies and insurance providers are slowly coming on board with these new techniques as they are proven safe and effective in the literature.

"There is some data that shows less cost associated with minimally invasive procedures and patients are able to return to work more quickly as well," says Dr. Patel. "But, there is a cost associated with purchasing the equipment, so it can be a double-edged sword. However, data has shown there are more benefits and less cost overall to perform minimally invasive procedures on the appropriately selected patients."

Here, spine surgeons who are experienced with minimally invasive procedures discuss their evolution and where we are likely to see this trend headed in the future.

**1. Complex procedures are now minimally invasive.** Simple procedures, such as discectomies, were among the first to transition into a minimally invasive approach, and now surgeons are performing minimally invasive fusion procedures on a regular basis. However, more recent technological development has allowed even more complex procedures, such as scoliosis correction, to fall under the minimally invasive umbrella.

"Traditionally scoliosis is known as a very difficult surgery on the physician and the patient," says Dr. Patel. "Now we are able to access the spine from a lateral approach and perform scoliosis surgery with significantly less blood loss and pain. Patients can mobilize the next day and their hospital stays have decreased."

While the more complex minimally invasive procedures are still relatively new, they could become more popular on the horizon if quality and cost can stand the test of time. However, the minimally invasive approach isn't right for all patients and there will likely be a subset that will still need the traditional open procedures going forward.

"Every patient is unique, and minimally invasive surgery can help some patients but not all," says Dr. Patel. "For some patients, the more traditional procedures may yield the best results. The key is finding a surgeon who is experienced in minimally invasive techniques and who relies on proven medical data to support the surgical reliability and safety of the techniques."

**2. Outpatient spinal fusions are more common.** As more surgeons are learning minimally invasive techniques and the technology develops for fusion procedures, more of those cases could be performed in the ambulatory surgery center setting. Anterior cervical discectomies and fusions are performed regularly in some ASCs, and additional procedures could make the transition in the future.

"Where we are trying to push the envelope a little more is in fusions," says Paul Nottingham, MD, a spine surgeon in Walnut Creek, Calif. "We can do some lumbar fusions in the outpatient setting. Single level transforaminal lumbar interbody fusions have also worked well in the ASC for painful degenerative discs. I think we are going to try to gain better constructs on a single-level lumbar fusion and a better alignment for TLIFs in the outpatient setting."

Insurance companies reimburse outpatient facilities at a lower rate than hospitals, in most cases, and ASCs generally have a lower infection rate than inpatient facilities.

**3. Artificial disc technology in limbo.** Motion preservation has been a trend in orthopedics for years, and disc replacement technology was designed as a step up from fusions in the field. However, attempts at lumbar disc replacements are largely considered failures and recent studies question whether cervical disc replacements reduce the risk of adjacent segment disease.

"This goes back to an overall healthcare question: how do we obtain the fountain of youth and stop ourselves from aging?" says Dr. Patel. "One of the things we are looking toward in spine surgery is motion preservation. Currently the dogma is too much motion creates too much pain and is unstable, so a fusion is required. However, fusion is the opposite of what the body wants to do — it wants to preserve motion."

In orthopedics, knee and hip surgery has evolved from early fusion techniques to joint replacements, which are now the standard of care.

"We have some development in implant technology that allows us to perform motion restoration procedures like artificial disc replacement or even instrumented fusion or arthrodesis procedures," says Hieu Ball, MD, an orthopedic spine surgeon in Walnut Creek, Calif. "We are looking to do things in a less traumatic way than in the past."

**4. Biologics and disc regeneration.** Moving forward with motion preservation, surgeons and scientists have set their sights on biological solutions and disc regeneration. Early technologies are still in the beginning stages and clinical trials, but this area shows the most promise in combating some of the highest pain and cost generators in the country.

**Dr. Nimesh Patel**



**Dr. Paul Nottingham**



**Dr. Hieu Ball**





"Disc regeneration seeks to bring the cushion of the spine back to its normal state," says Dr. Patel. "These techniques are being researched and there have been some attempts at performing them, but we don't have any solid clinical evidence that will promote the idea we should change the way we treat spinal surgery at this point in time."

Biologics has permeated the market with bone morphogenic proteins and other similar synthetic fusion materials. Device companies are working on creating a material that allows bone graft substitutes to achieve fusion without harvesting bone from the patient's iliac crest.

"I have actually converted the majority of our procedures where we had used BMP to using some of the ceramic based substitutes," says Dr. Ball. "Some are usable by themselves and others are used in conjunction with a demineralized bone matrix. I think that is really where people are going; going back to using allograft or autograft because there has been evidence in the literature of the potential complications and side effects of BMP."

BMP has also been very expensive in the past and surgeons are now encouraged to use other options in the future.

### 5. Lateral approach is gaining steam.

More procedures are looking for a lateral approach to the spine, and device companies are developing new lateral systems to meet these needs. Initial minimally invasive procedures approached the spine anteriorly or posteriorly, but there have been some proven benefits to the lateral approach when possible.

"The biggest trend in minimally invasive surgery right now is the lateral approach," says Jennifer Sohal, MD, a spine surgeon with St. Vincent Spine Institute in Los Angeles. "It has been very effective in decreasing postoperative pain and allowing surgeons to perform more complex procedures with less morbidity."

Even high acuity procedures such as scoliosis repair are now accessible through a lateral approach. However, the technique has not become a standard of care yet.

"It's still in the early stages, but I think more people are increasing their skill level in these techniques," says Dr. Sohal. "We'll see more training opportunities available and surgeons will become more comfortable selecting the right patients for the procedure. Minimally invasive techniques are not replacing all open techniques; it's just another tool in the toolbox."

### 6. Intraoperative neuromonitoring and neurophysiology.

Along with minimally invasive instrumentation and implants, a new need for advances in neuromonitoring and neurophysiology has emerged. Surgeons want to perform these procedures safely for their patients, and an extra person gauging the quality of the procedure can really make a difference.

"An area of advancement in the future is going to be neuromonitoring so surgeons can make sure they aren't doing any nerve damage during these procedures," says Dr. Nottingham. "We'll also need a way to package this technology so it can come at a reasonable cost to the ASC or hospital. It will be in the interest of companies to develop models for leasing and temporary rental programs so that these technologies can be used in a more economical manner."

Lawrence Dickinson, MD, a spine surgeon with Pacific Brain and Spine Medical Group in Castro Valley, Calif., has added a neurophysiologist to his practice, which he has found improved the quality of his procedures. He uses the Baxano system to perform minimally invasive spine surgeries and has seen the advantage of using a neurophysiologist in the operating room, even if it adds expense to the case.

"I think adding a neurophysiologist is an advantage and the patient will never complain about

someone guarding the nervous system," he says. "This person is in the room telling the surgeon if he is irritating the nerve root. Additional safety is helpful in the long run because it prevents complications, whether you are using a device or not. I started using electrophysiology and improved my practice."

### 7. Computer navigation could have a place going forward.

Computer assistance and robotic guidance for orthopedics and spine have been a contentious issue for the past few years; the equipment is expensive and surgeons question whether it actually improves the procedure enough to warrant that cost. However, there is a market for this technology and future iterations could make an impact on spine care.

"Surgeons are able to use navigation to assist in surgery, decreasing operative time and need for revision surgery," says Dr. Sohal. "It involves obtaining an intraoperative CT scan to create a model of the spine on which we can project our operative plan."

Mazor, a robotic spine technology company, has published results from individual surgeons on their accuracy placing pedicle screws.

"I think we have navigational systems working now, but there will be continued improvement there," says Dr. Nottingham. "The technology continues to reduce our element of error and the amount of radiation used to produce images."

### 8. Physician-owned ambulatory surgery centers are more common in spine.

There is an opportunity for more spine surgeons to become investors in ambulatory surgery centers if they can move their cases into the outpatient setting. Spine practices in unsaturated markets are able to open their centers and have more control over their cases.

"Our ASC is really staying on the forefront of minimally invasive spine technology," says Dr. Nottingham. "There is a keen interest of the management and ownership to really develop quality outpatient spine surgery services, so it's been a real pleasure working with them. Some ASCs don't show that level of interest because it really takes commitment to develop an outpatient spine service."

Spine surgeons must partner in outpatient surgery center endeavors and commit to performing cases there to make the investment successful.

"If there is teamwork amongst the surgeons and administration, the program will come into existence and become one of quality service," says Dr. Nottingham. "If you bring in the appropriately selected cases, you will have the monies to purchase the navigational, neuromonitoring and anesthesia systems along with any other instrumentation needed. The critical element is getting interested parties together." ■

Dr. Jennifer Sohal



Dr. Lawrence Dickinson



# 6 Top Advocacy Issues for North American Spine Society

By Heather Linder

**J**ohn Finkenberg, MD, is on the North American Spine Society's board of directors as the chair of the advocacy committee. He has practiced orthopedic surgery for 20 years while also staying active in laboratory and clinical research. Dr. Finkenberg advocates for NASS and the spinal field through frequent trips to Washington, D.C., to meet with Congressmen and discuss healthcare policy.

Here Dr. Finkenberg discusses NASS' top six advocacy priorities and how the organization is pursuing these issues.

**1. Medicare sustainable growth rate formula.** The Medicare SGR caps payments when utilization increases above expected levels relative to the gross domestic product. NASS members, as well as many other physicians, feel it doesn't accurately keep pace with the cost of running a medical practice.

"We think the Medicare economic index has a greater likelihood to show how the costs of running a medical practice change," Dr. Finkenberg says. "It measures inflation and the increasing cost of physician-specific goods and services — the new Medicare payment system needs to utilize the MEI. The Medicare payment advisory commission has consistently agreed payments should be based on the Medicare economic index instead of the GDP. There are a few new Congressional plans coming out, and we are in the process of reviewing those to understand exactly how they work. The authors of these proposals have asked for our opinion and we plan to respond."

**2. Medical liability reform.** Medical liability is a huge issue across the country. If the government could do something about medical liability reform, it would save \$62 billion over the next 10 years. Some experts believe that the costs associated with medical liability issues total as much as \$850 billion dollars per year.

"When I go to Washington, I talk to our Representatives about the successes California and Texas have had since they limited non-economic damages," Dr. Finkenberg says. "That, in addition to implementing an arbitration system, keeps the courts less busy and keeps malpractice insurance significantly lower. My liability insurance is \$30,000 per year but my colleagues on the East Coast pay four or five times that for medical malpractice insurance. What happens in those states is that the doctors start practicing defensive medicine. Costs for Medicare in these areas are spiraling out of control."

One way to control escalating healthcare costs is to eliminate the practice of defensive medicine and encourage physicians to order directed diagnostic studies that will alter their treatment choices according to the study findings. "We are also asking that the government consider protecting physicians that volunteer in disaster areas or volunteer to cover emergency rooms to assist hospitals in fulfilling EMTALA mandated services," Dr. Finkenberg says. "Physicians want to provide needed emergency services but Medical Liability concerns and escalating malpractice insurance is a deterrent."

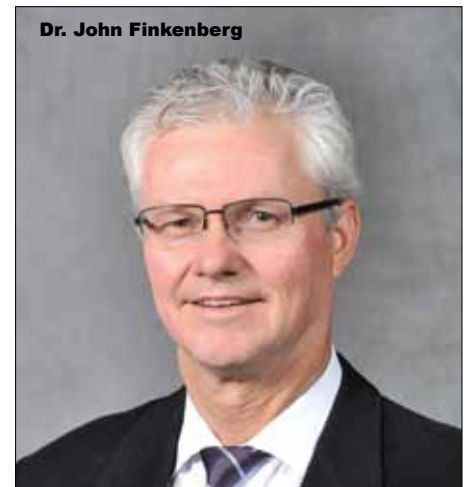
**3. Independent Payment Advisory Board repeal.** NASS is concerned about the unilateral power given to the IPAB Committee. IPAB is comprised of 15 members. None of the members are practicing physicians and only a few will have a medical degree.

"We understand the Board has been established, but we feel practicing physicians need to be involved and the Committee should only operate in an advisory role to Congress regardless of our legislators' ability to curtail healthcare costs," Dr. Finkenberg says. "Interestingly, the repeal of the IPAB Board has bipartisan support. Patient concerns are voiced by their Representatives in Washington D.C. and empowering this Board to make unilateral decisions eliminates majority public opinion."

Legislators often focus on physician payments as the primary reason for increasing healthcare costs. Only 9 to 11 percent is spent on physician payments, which is only a small portion of the Medicare healthcare dollar. Other areas should be explored, as they could bring greater cost savings.

"I would love to see the option for privatization," Dr. Finkenberg says. "Many seniors want to use their Medicare benefits as they have been paying for the privilege their entire career. Patients are willing to pay the balance of their medical bill in exchange for the opportunity to pick the specialist of their choice. Many physicians who opted out of the Medicare system would consider re-enrolling if this option were enacted. We support patients being allowed to establish Defined Contribution Plans or Medicare Savings Accounts. We are hopeful that this is part of what's implemented."

**4. Utilization review process.** "The utilization review process has increased in the last several years. Insurers have created treatment guidelines established by their own medical panels in an effort to curb spiraling healthcare



costs. The medical panels support their recommendations by claiming the medical algorithms are supported by evidence based medicine. Unfortunately, each of the guidelines (Milliman, Interqual, etc.) differ and physicians are not being told the details of the utilization review criteria by the insurers who state proprietary reasons," Dr. Finkenberg says. "Physicians need to be given the guidelines and have an opportunity to appeal treatment algorithms if other Level I, peer-reviewed studies support alternative treatments."

If the doctor neglects to put in the patient's physical exam or history that the reviewers are looking for, it's denied. Doctors can appeal this decision, but it requires a discussion with another doctor who is often not a specialist in the field of the physician appealing the denial. Many providers are frustrated because the utilization review process puts another step in the care process and it has not been established to result in better value or higher quality care.

"The delay in care is aggravating to the patient and physician, and is not warranted," Dr. Finkenberg says. "I've started participating as a utilization reviewer in an effort to improve the process. I believe that it is the responsibility of the reviewer to explain why the treatment is being denied and how the information found in the accompanying physical exam may be sufficient to allow approval if they had supported their request with that data. If the process is made more transparent, doctors will be less frustrated. I'm also pushing hard for same-specialty utilization reviewers."

**5. Electronic medical records.** Most surgeons understand how electronic medical records can assist physicians with sharing diagnostic evaluations and tests. However, the implementation of this technology has not been smooth. Examination templates have been established for primary care physicians and the

creation of specialty-centered computer programs is progressing slowly. Unfortunately, he says, meaningful use is being monitored to establish provider quality of care. Spine specialists are being told that these quality measures will be published even though proof that being in compliance with these requirements to give higher quality of care has not been scientifically established.

"Typically when I make morning rounds, I meet with each patient for 15 minutes to discuss their surgery, examine their wound and answer questions they may have about their symptoms or care," Dr. Finkenberg says. "That's 12 minutes with the patient and three minutes on completing the progress note in the chart. Hospitals struggling to implement EMR systems are incurring growing pains, which are altering the physician-patient relationship. I now spend three minutes with the patient and 12 minutes with the computer. This time is now spent navigating through the EMR system trying to make sure the correct orders are being documented, nurses are being made aware of important treatment changes and labs/test results are being discovered."

Some Healthcare analysts believe physicians will play a different role in our healthcare system in the future. They will no longer be expert diagnosticians honing bedside history and physical examination skills, but instead will become health information managers.

"Everyone in medicine understands the need for eliminating duplication of effort, sharing medical history and diagnostic information, but none of us got into this occupation to be information managers only for our patients," Dr. Finkenberg says. "There is a lot more to being a doctor, and we don't want to give up that portion. When I talk to people in CMS, they also want to preserve the physician-patient relationship. They are interested in making the EMR systems an asset that simplifies the paper work, allows for decreased errors and affords time to establish better physician-patient relationships."

Currently spine specialists are modifying EMR programs set up for primary care physicians and with every modification, the system can go down for several days. "It's incredibly frustrating," he says. "It takes us away from the patient and puts us in front of a box."

**6. In-office ancillary services.** Recent requests from the Senate Finance Committee to score the removal of the in-office ancillary services exemption to Stark Law relating to physical therapy, clinical laboratory services and advanced diagnostic imaging have some fearing the exemption may be eliminated in the future. The Government Accountability Office released a report focused on physician-owned practice utilization of advanced imaging.

"We think doing away with the exemption is a mistake that could affect the quality of care for patients," Dr. Finkenberg says. "As an orthopedist and spine specialist, I frequently care for the elderly and disabled. It is not uncommon for them to require an X-ray, therapeutic injection, brace or ambulatory aid. Patients with spinal injuries need immediate care, and to have them sent some place else to get these diagnostic or therapeutic treatments is difficult for patients and their family. Many people forget that patients don't always drive themselves to their appointments. Getting rid of the exemption would require

patients to get X-rays or diagnostic tests in another location across town or maybe even farther away.

"We think there is a way to monitor costs by better identifying Medicare fraud and abuse and requiring utilization outliers to undergo a review process after established norm limits for that subspecialty have been exceeded," he says. "The goal is to improve the value and quality of care and NASS believes this can be done without taking away the diagnostic and treatment facilities that streamline care and benefit patients." ■

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**Economics, Politics & the Independent  
Spine Surgeon: Q&A With Dr. Craig  
Callewart (continued from page 1)**

**Q: Are there any plans on the national level to mitigate these negative affects?**

**CC:** There is really no plan "B"; they just aren't going to pay and we have to have our finances in order so we can withstand weeks of non-payment or slow payment. There are two things spine surgeons can do to mitigate the impact: one would be to make sure that coding is done on time and bills go out promptly so that insurance companies will pay on time, which will maximize cash flow; the other piece of the equation is to minimize expenses, so many surgeons will chose to defer certain expenses, such as profit sharing plans that are part of the retirement package.

**Q: How have these changes and the uncertain economy had an impact on private practice spine surgeons?**

**CC:** For most spine surgeons, approximately a third to a half of their expense is employee related. Right now, I'm debating whether to hire a new employee. I have deferred that decision because my personal income tax will increase and now I'm expecting to have low cash flow. Now, instead of employing another person, I'm choosing to pay overtime or use part time employees. I think most spine surgeons will feel a significant hit and increase on tax expense, mainly because deductions are going to be phased out above certain income thresholds.

It remains to be seen exactly which deductions will be phased out and at what income thresholds; it's the wild card role waiting for the rules and regulations to be written. Payroll taxes are returning to their full force and that will be another hit. This also contributed to my decision not to take on another employee, which is contrary to what Washington wishes to happen.

Most of us are the prototype for what Washington wants to empower; small businesses are

where economic growth is expected to happen. Yet the current tax environment penalizes us for working hard and being productive. Sometimes I wonder whether it's worth it to keep working this hard and taking on new patients, which is stressful when the federal disincentives continue to increase.

**Q: Over the next few years, will spine surgeons be able to keep their practice doors open?**

**CC:** It's harder to maintain the amount of income for the work powers invested. More and more of my colleagues are selling their practices to the hospitals or other ventures. I also watch many of my colleagues trying to create a medical device so they can quietly withdraw from the practice of medicine; most of these people are at the prime of their career, which is sad for the country.

**Q: Is there any way spine surgeons can have an impact on healthcare policy? How have you become involved?**

**CC:** For better or worse, I have worked six sessions in our state legislature, which equals 12 years. Most legislators, both at the state and federal levels, are attorneys with very little experience in medicine or business, yet they are making decisions that generally impact us all. Physicians are beginning to wake up and run for political office. I would encourage those of us who can still make a change to become personally involved with our local legislatures, Congressmen and Senators, and work on their campaigns.

One of the points I try to bring across to them is we don't really have a healthcare access problem in America as much as we have a healthcare payment problem. Most don't understand that a lot of us do charity work because it's a foreign concept to a business man, but that's the basic tenant of medicine. The real problem is the payment system needs to be fixed.

Lowering payments doesn't reduce expenditure; oftentimes it has a paradoxical effect of increas-

**Dr. Craig Callewart**



ing expenditure because surgeons and hospitals work harder to cover their expenses.

**Q: What advice do you have for surgeons who are looking to maximize their time and impact on elected officials?**

**CC:** If surgeons try to reach their representatives during the heat of the battle when bills are being considered, it's hard to deliver the message unless the physician has strong working relationships with that elected official. The time to initiate that relationship is during the campaign process or during session breaks. A key thing to do is find out who their healthcare associate or liaison is and get to know that staffer. Visit with them and teach them; they are often very young people and greatly ambitious, but don't have much experience in healthcare.

Right now, it's coming down to crunch time. Our elected officials need to hear from us, otherwise they will hear from other government agencies. ■

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# 5 Proactive Steps for Spine Surgeons to Influence Spine Care Policy

By Laura Miller

**E**vidence-based medicine, properly applied, is an important aspect of the current healthcare landscape, and spine surgeons must take a more active approach to research and advocate for future development and coverage in their field.

“The most important thing is for surgeons to become involved in advocating for what we do,” says Frank Phillips, MD, a Professor of Orthopaedic Surgery at Rush University Medical Center and a founding surgeon of the Minimally Invasive Spine Institute at Midwest Orthopaedics at Rush. “Although surgeons are busy running their practices and fighting the everyday battle in the trenches, leaving policy decisions and advocacy initiatives to others is allowing those without clinical expertise to define how we practice. We need to get surgeons involved to really make changes in the way healthcare decisions are made.”

Here are five steps for spine surgeons to proactively influence spine care policy in the future.

**1. Reframe the debate to focus on appropriate real world treatment comparisons.** Payors and policy makers have suggested that Level 1 data proving the effectiveness of prescribed treatments is the only evidence that counts. Evidence-based medicine has been misconstrued to mean a reliance on RCTs only, when, in fact, “the practice of evidence based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research,” says Dr. Phillips. “Evidence-based medicine is not restricted to randomized trials and meta-analyses. It involves tracking down the best external evidence with which to answer our clinical questions. We need to define which treatments work best for which patients.”

In the effort to try and cut costs, there has been an insistence that surgery be compared to “less costly” non-surgical treatment. “This comparison often has no clinical meaning as these should not be viewed as ‘competitive’ treatments,” says Dr. Phillips. “For most degenerative conditions, surgery should be reserved for a select group of patients that have failed conservative treatment. To compare surgery to conservative treatments the patients have already failed makes little clinical sense.”

This problem explains the high cross-over rates seen in the SPORT study as patients are unwilling to continue to be randomized to conservative treatment that they have already failed.

“Also studies comparing surgery to non-surgical treatment are frequently criticized by ‘ivory tower’ statisticians because of a lack of blinding,” says Dr. Phillips. “It’s clearly not possible to blind patients or the surgeons to the treatment received. Spine surgery trials should not be held to a standard they can never meet, or so-called evidence-based medicine will have failed patients by artificially creating barriers to care due to methodological constraints.”

**2. Emphasize the quality data that does exist.** Over the past decade the spine community has published studies supporting not only the effectiveness but also the value of many surgical procedures. The Spine Patient Outcomes Research Trials, which are high-level, multi-center studies examining the effectiveness of spinal treatments, have supported the value and effectiveness of surgery for specific diagnoses. The body of evidence must be used to challenge the non-transparent guidelines provided by for-profit companies to the insurance industry.

The recent AHRQ draft report challenges the quality of evidence supporting spinal fusion for a variety of degenerative conditions, but Dr. Phillips argues that quality data does exist. Spine surgeons need to bring quality and cost-effectiveness studies they have done to the forefront and defend procedures that help their patients every day.

“I think we do have good evidence for a lot of surgeries that we do and as a spine community, we have to advocate for ourselves using the evidence we have,” says Dr. Phillips. “Spine surgeons in all practice settings can participate in data collection and clinical trials that will impact the field. It’s no longer an excuse to say research is up to the universities. All spine surgeons need to proactively collect data. If we don’t all get on board with studies proving value in what we do and advocating for effective treatments, we are going to be run over.”



Dr. Frank Phillips

**3. Advocate priorities to spinal organizations.** National spine organizations remain influential advocates for spinal surgery. Spinal organizations play a prominent role in advancing spinal health policy across the country.

“The dues-paying members of these organizations must ensure that their views and concerns are adequately represented by these organizations ‘Instead of just giving money to the organizations, spine surgeons should let the leaders know what they expect of them,’” says Dr. Phillips

**4. Become involved with decision makers.** Often spine surgeons have access to elected government officials and they should not be afraid to leverage these relationships.

“Our elected officials are inundated with medical information and sometimes misinformation, and may be dealing with a lot of competing agendas,” says Dr. Phillips. “Oftentimes, it’s a question of explaining the issues; they are usually receptive to learning more about issues that directly affect patients.”

**5. Patients are our most powerful advocates.** New payor guidelines are being developed across the country based on cherry-picked data that isn’t always representative of the evidence base. “We should all be very aggressively fighting these guidelines that aren’t evidence-based or transparent,” says Dr. Phillips. “These are just an excuse to deny patients care. This requires a public relations effort — we need all stakeholders to be made aware that the guidelines are arbitrary with little input from clinicians treating patients with spinal disorders.”

One of the most powerful advocacy tools surgeons have is their patients. “We have to channel patients,” says Dr. Phillips. “Every surgeon has patients with success stories and we need to get this message out. We need to learn from other patient advocacy organizations such as the Arthritis Foundation and the National Osteoporosis Foundation who have been very influential. The International Society for the Advancement of Spine Surgery recently launched an advocacy arm that includes spine professionals as well patients. One of the goals is to make patients spine care advocates. Policy makers and elected government officials tend to listen closely to what patients have to say.” ■

# 11 Spine Surgeons Discuss Exciting Trends for the Future



**Robert Bray, MD, DISC Sports & Spine:** Looking towards the future, I am most excited to see the further development and acceptance of the outpatient surgery center as the premier vehicle for delivering the highest level of elective

patient care. Today, our surgeons perform even the most complex cases that were typically reserved for hospitals on an outpatient basis. The surgery center environment can offer a more cost efficient, patient-centered approach that has been shown to have a reduced risk of infection. Development of specialized centers for high acuity surgery will alter the entire model of how healthcare is delivered.



**Thomas Errico, MD, NYU Langone Medical Center Hospital for Joint Diseases:** Frankly I have been performing spine surgery for nearly 30 years and have seen immense progress in the field. There, however, still exist many

burning questions about who to operate on and what specifically should be done and can it be done successfully in a minimally invasive fashion. I look forward to answers to many of these questions as we apply a more rigorous approach to data collection and analysis of the results of spinal surgery.



**Steven Garfin, MD, UCSD Medical Center:** I am excited about the opportunity to continue to work with academic and spine surgical leaders and industry innovators on new products, concepts and ideas. This also leads to an unfortunate "burden" in trying to work with insurance and government and academic spine societies in developing plans, protocols and guidelines to enhance care for spine surgery patients that will move us forward in what we can diagnose and treat. I feel the next, important, future directions in spine surgery have to be in diagnostics and separately biologics/tissue altering techniques that address pain. Hopefully I can work in that arena, and also help "grease the skid" so financial impediments and predetermined negative judgments are not present when novel diagnostics and exciting biologics appear.



**Richard Guyer, MD, Texas Back Institute:** I think the whole field of biologic and genetic research will provide our patients tremendous treatment advancements. Someday we will be able to treat and reverse

symptomatic degenerative disease before it becomes end stage, to treat and prevent osteoporosis and to treat adolescent scoliosis without fusion surgery but motion sparing techniques. The last area I am most excited about is the application of minimally invasive surgery and robotics so that someday just like robotic-assisted prostatectomies, we will be able to decompress the spine from the inside out particularly with regard to spinal stenosis without taking the spine apart.



**Andrew Hecht, MD, Mount Sinai Medical Center:** I am most excited by the increasing emphasis not only on minimally invasive and motion preserving procedures but on advances in the understanding of the biology of spinal disorders such as disc degeneration. Our lab continues to study the basic processes involved in the pathophysiology of disc degeneration with the hope that someday this may lead to novel biologic treatments to halt or reverse the degenerative process that underlies the majority of the spinal disorders we treat.



**Michael Heggeness, MD, Baylor Clinic:** I view the future with both real fear and true anticipation. I am very concerned to see how all physicians in the United States have been subjected to so many additional costs (including electronic medical records, e-prescribing, "meaningful use"), and threats (of misdirected audits), that the independent practice of medicine is rapidly disappearing. This will drastically limit choice for both doctor and patient going forward. On the other hand, I am very excited to know that molecular medicine techniques for musculoskeletal medicine will soon be a reality. This will dramatically improve many of our treatment options in the very near future.



**Harry Herkowitz, MD, William Beaumont Hospital:** I am most excited about improving our imaging technology to pinpoint the source of the patients' pain; continuing our research to regenerate aging discs; improving our surgical techniques to allow for faster recoveries; and utilizing outcomes research to better evaluate the surgical procedures performed on patients to help determine the best operation for that patient's problem.



**Stephen Hochschuler, MD, Texas Back Institute:** Despite significant challenges facing medicine in general, I am quite excited by potential downstream opportunities for spine. There will be opportunities in: telemedicine; physician extenders; integration of treatment; emphasis on prevention; application of nano and MEMS Technology; development of biologic solutions; improvement in image guidance and robotics and more international integration.



**John Pelozo, MD, Center for Spine Care:** I look forward to the future of spine care in spite of all the challenges ahead. Science and technology are advancing providing exciting opportunities for spine physicians to improve care. This will require careful, honest, and ethical study combining the resources of the best research and clinical minds in the field. I am presently committed to several basic research and clinical studies in biologics, nanotechnology and surgical techniques. Hopefully, these will lead to predictable, high quality, cost effective treatments in the near future.



**Kenneth Pettine, MD, Rocky Mountain Associates:** I remain most excited about the last two-and-a-half years of being involved in two FDA studies involving biologics to treat discogenic low back pain. In addition we have injected over 130 patients with autogenous bone marrow concentrate. I believe biologics will soon change the practice of spine and am excited to be pioneering this advancement.



**Raj Rao, MD, Medical College of Wisconsin:** The future of spine surgery holds a lot of promise, with evolving new products and techniques in our armamentarium. The concepts of using even smaller incisions and better technology in the future, just as effectively as we do today, to relieve pain and improve function is exciting. We need to explore the whole "mind-body" concept to understand the exact role of pain in spinal disorders. ■

**50 Spine Surgeons & Specialists Researching Biologics for Spine Treatments (continued from page 1)**

time researching stem cell repair for degenerative disc disease and the use of growth factors to treat spinal cord injuries.

**Scott Boden, MD**, is a professor of orthopedic surgery and director of the Emory Orthopaedics & Spine Center in Atlanta. He has at least six patents for medical devices and his research is focused on bone regeneration, spine fusion and spinal disorders.

**Nicholas Boulis, MD**, is a neurosurgeon at The Emory Clinic and an assistant professor of neurology at Emory University in Atlanta. Dr. Boulis' research interests include biological neurorestoration and neuromodulation through cell, protein and gene delivery to the nervous system.

**Frank P. Cammisa, MD**, is the chief of the spine service at Hospital for Special Surgery in New York City, is interested in autologous and synthetic biologic bone growth factors. His expertise includes minimally invasive spine surgery, computer-assisted spinal surgery, athletic spinal injuries and motion-preserving procedures.

**Ivan Cheng, MD**, is the orthopedic surgery residency program director and chair of the education committee in the orthopedic surgery department at Stanford University in Palo Alto, Calif. He has been conducting research using stem cells for spinal cord injury for the past five years at Stanford.

**Freddie Contreras, MD**, joined Neurosurgical Associates of Texarkana in 1987, where he has been practicing ever since. He is among a group of three surgeons from the practice who have used the stem cell procedure from Harvest Technologies to treat back pain.

**Domagoj Coric, MD**, was a lead investigator and author of "Prospective study of disc repair with allogenic chondrocytes," which describes the initial clinical experience with a cell-based biological therapy for treating degenerative disc disease. He is the chief of neurosurgery at Carolina Medical Center.

**Matthew Cunningham, MD**, is an orthopedic surgeon focused on spine surgery at Hospital for Special Surgery. He has conducted research related to intervertebral disc regeneration and published literature on tissue-engineered intervertebral disc procedures to produce new matrix, maintain disc height and restore biomechanical function to the rodent spine.

**Timothy Davis, MD**, is the director of interventional spine, electrodiagnostics and musculoskeletal medicine at The Spine Institute, Center for Spinal Restoration in Santa Monica, Calif. He has a special interest in interventional pain management, disc regeneration technology and spinal cord stimulation.

**Rick B. Delamarter, MD**, is the co-medical director of the Cedars-Sinai Spine Center and vice chair for spine services in the department of surgery at Cedars-Sinai Medical Center in Los Angeles. He has a vast interest in non-fusion and minimally invasive techniques, including the use of growth factors for fusion and stem cells for repairing degenerative disc disease.

**Randall Dryer, MD**, is a spine surgeon with the Central Texas Spine Institute in Austin who focuses on treatment of the cervical and lumbar spine. Along with his practice, Dr. Dryer has participated in FDA-approved clinical trials and spearheaded innovative procedures, such as using adult stem cells from a patient's body to aid in tissue regeneration.

**Richard G. Fessler, MD**, of Northwestern Memorial Hospital in Chicago, was the first physician in the United States to perform a human embryonic spinal cord transplant in 1997. He has been a medical specialist and flight surgeon for NASA and participated in the first FDA trial to test the use of embryonic stem cells in patients with thoracic spine injuries.

**Mark Flood, DO**, is the chief of surgical innovation and an orthopedic spine surgeon at the Laser Spine Institute in Tampa, Fla. He uses the RegenaDISC system to help repair patients' degenerative, torn, ruptured, herniated or bulging discs.

**Gary Ghiselli, MD**, is a board-certified spine surgeon at Denver Spine Surgeons. He has performed research on problems in cervical, thoracic and lumbar spine, and published many articles and book chapters.

**Jonathan Glass, MD**, was among the physicians who performed the first FDA-approved stem cell injection into a patient's cervical spine for amyotrophic lateral sclerosis treatment. He is a neurologist at The Emory Clinic and professor of neurology at Emory University in Atlanta.

**Steven Glassman, MD**, is a professor of orthopedic surgery at the University of Louisville (Ky.) and practices at Norton Leatherman Spine Center in Louisville. He focuses on patient-based outcomes and cost-effectiveness for spinal surgery, as well as the role of biologics in spinal fusion.

**Robert F. Heary, MD**, is the director of the Spine Center at the Neurological Institute of New Jersey in Newark and the director of the neurosurgical intensive care unit. He is also a professor of neurosurgery.

**Michael Heggeness, MD**, is director of the spine surgery fellowship program at Baylor College of Medicine in Houston and former president of the North American Spine Society. His current research includes the anatomy and biomechanics of the spine, nerve investigations and developing new techniques for tissue engineering of bone that seeks to use molecular genetic techniques to stimulate fusion and healing of fractures.

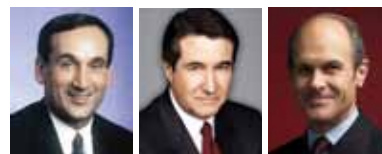
**Wellington Hsu, MD**, is a spine surgeon at Northwestern University Feinberg School of Medicine in Chicago with a special interest in trauma and minimally invasive instrumentation. He also serves as the director of the Professional Athlete's Spine Initiative, which compiles data on athletes who undergo treatment for spinal conditions.

**Richard A. Hynes, MD**, is a spine surgeon at Osler Medical in Melbourne, Fla. He has participated in numerous FDA-approved studies and has a professional interest in biologics and the use of stem cells in spinal surgery.

**Stanley Jones, MD**, of SpineCare in Houston, earned national recognition for performing spine surgery using stem cells on Texas Governor and former Republican candidate for the presidential nomination Rick Perry. The procedure was developed by RNL BIO, a company specializing in adult stem cell therapeutics.

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**J. Patrick Johnson, MD**, serves as a neurosurgeon within the Cedars-Sinai Spine Center in Los Angeles. His research interests include biologic stem cell repair of spinal cord injuries, and he has published several articles in professional journals.

**Robert Johnson, MD**, completed research and testing on the efficacy of point of care adult stem cell therapies in spine surgery, in which the patient's own bone marrow cells help bone growth in spinal fusion procedures. He practices at Neurological Associates of San Antonio and is board certified in orthopedic spine surgery.

**Kee Kim, MD**, is the chief of spinal neurosurgery at UC Davis and co-director of the UC Davis Spine Center in Sacramento. He has been involved in several clinical trials for artificial disc replacement and minimally invasive surgery.

**Jeffrey Kleiner, MD**, of Medical Center of Aurora (Colo.) was among the first spine surgeons to perform a discectomy in the United States using adult stem cell to help repair a patient's lower back in 2008. He partnered with the Colorado-based company Regenerative Sciences to perform the surgery.

**Carl Laurysen, MD**, was among the first neurosurgeons in the country to inject stem cells into a human spinal cord as part of an FDA trial. He currently serves as the co-director of spine research and development and lead spine surgeon at Olympia Medical Center in Los Angeles.

**Albert Lee, MD**, is the principal investigator of the Mesoblast Disc Repair clinical trial at Tallahassee Neurological Clinic, which will determine the safety of the single injection of allogenic mesenchymal precursor adult cells. Dr. Lee has a U.S. patent for inventing a method and apparatus for thermally affecting living tissue.

**Allen D. Levi, MD**, is the chief of neurosurgery at the University of Miami Hospital and chief of neurospine services at Jackson Memorial Hospital. Dr. Levi oversees several ongoing clinical trials and is actively researching treatment for spinal cord injury, including cellular transplantation of Schwann cells and stem cells.

**Chris Meyer, MD**, is at the forefront of using stem cell therapy for regenerating tissue and has extensive experience harvesting adult stem cells during routine spine procedures to treat back pain. He performs surgery at Houston Orthopedic & Spine Hospital.

**Isaac L. Moss, MD**, is a spine surgeon at New England Musculoskeletal Institute of the University of Connecticut Health Center. He has a professional interest in minimally invasive spine surgery and treating a variety of spinal conditions.

**John O'Toole, MD**, is an assistant professor and attending physician in the department of

neurosurgery at Rush University Medical Center in Chicago. Dr. O'Toole has a special interest in translational application of spinal biologics and the development of new spinal surgery techniques and devices.

**Burak Ozgur, MD**, is a neurological spine surgeon at Cedars-Sinai Medical Center in Los Angeles. He has a strong interest in stem cell research, spinal biomechanics and minimally invasive spine surgery development.

**John Pelloza, MD**, is a founding partner of the Center for Spine Care and Minimally Invasive Surgery Institute, an ambulatory surgery center. He was one of the first spine surgeons and clinical researchers in Dallas to use mesenchymal stem cells to treat degenerative disc disease.

**Kenneth Pettine, MD**, is the co-founder of Rocky Mountain Associates and Loveland (Colo.) Surgery Center. He is also founding member of the Society for Ambulatory Spine Surgery and is pursuing clinical trials with Mesoblast, a biologic treatment.

**Kevin Rahn, MD**, is an orthopedic spine surgeon at Fort Wayne (Ind.) Orthopaedics with a special interest in treating patients with degenerative disorders. Dr. Rahn is actively involved in stem cell research and uses motion preservation techniques and laser procedures when treating his patients.

**Bernard Rawlins, MD**, is a spine surgeon at Hospital for Special Surgery in New York City with research interests in gene-mediated spine fusion, spine biomechanics and innovative surgical techniques. His clinical trials include osteogenic differentiation of human mesenchymal stem cells and he has written several scientific chapters and articles on biologic treatment.

**Harvinder S. Sandhu, MD**, is an associate attending orthopedic surgeon at Hospital for Special Surgery in New York City and an assistant scientist in the hospital's research division. He has a special interest in endoscopic spine surgery, computer-assisted spine surgery and the use of biologics.

**Francis H. Shen, MD**, is a professor of orthopedic surgery at the University of Virginia School of Medicine in Charlottesville with a professional interest in open and minimal invasive techniques to preserve patients' spinal pathology. He treats patients with all types of conditions, including tumor, trauma and degeneration conditions.

**Robert M. Shugart, MD**, is an orthopedic spine surgeon at Fort Wayne (Ind.) Orthopaedics Spine Center. He is examining the effectiveness of injecting mesenchymal precursor stem cells into the center of the disc for patients with moderate lumbar degenerative disc disease.

**Rudolph Shrot, MD**, is among the neurosurgeons at UC Davis Health System in Sacramento researching and performing procedures using the Mesoblast technology to promote bone tissue growth after removing cervical discs.

**Jonathan Slotkin, MD**, of Geisinger Health System in Danville, Conn., is medical director of InVivo Therapeutics, a medical device company focused on solutions for patients with spinal cord injury with a new scaffold that includes human neural stem cells.

**Gary K. Steinberg, MD**, is chair of the Stanford University School of Medicine neurosurgery department in Palo Alto, Calif. He has a strong background in stem cell biology and participated in the Geron Corp. trials at Stanford treating patients with spinal cord injury using the company's stem cell technology.

**Gowriharan Thaiyananthan, MD**, is founder and head surgeon at BASIC Spine: Brain & Spine Institute of California. He has experience using cadaveric stem cells, donor stem cells and patients' own mesenchymal stem cells as graft material during spine procedures.

**Nicholas Theodore, MD**, is the clinical advisor for SpinalCyte, a company developing new technology to re-grow spinal discs. He is the director of the Barrow Neurosurgery Spine Program in Phoenix and neurotrauma director, as well as associate director of the neurosurgery residency program.

**Jeffrey Wang, MD**, is the co-director of the UCLA Spine Center and vice chairman of the UCLA/Orthopaedic Hospital department of orthopedic surgery. He recently published an article discussing the future potential for biologics and stem cells in spine surgery.

**Michael Wang, MD**, is an assistant professor of neurological surgery and rehabilitation with the University of Miami Health System. He has several research interests, including resorbable spinal implants and the development of new osteobiologic agents to promote spinal fusion.

**Robert Watkins Jr., MD**, is an orthopedic spine surgeon and co-director of the Marina Spine Center at Marina del Ray (Calif.). He participates in research related to biologics for spine surgery, spinal fusions and surgical technology.

**Eric Woodard, MD**, is the chief medical officer of InVivo Therapeutics, a medical device company focused on finding solutions for patients with spinal cord injury, including using stem cells. He is also the chief of neurosurgery at New England Baptist Hospital in Roxbury Crossing, Mass. ■



# 11th Annual Orthopedic, Spine and Pain Management-Driven ASC Conference

## Improving Profitability and Business and Legal Issues

**June 13-15, 2013**

Westin Michigan Avenue, Chicago, Illinois

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Mike Krzyzewski

- **Victory Through Teamwork and Leadership** - Coach Michael Krzyzewski "Coach K", Head Men's Basketball Coach, Duke University and Winningest Coach in NCAA Division I Men's Basketball History
- **Emerging Business Issues in Spine Surgery** - Stefan Prada, MD, Orthopedic Spine Surgeon, Laser Spine Institute, Christopher Duntsch, MD, PhD, Clinical Director, Neurosurgeon, Texas Neurosurgical Institute, Patrick McCarthy, Chief Network Development Officer, Access MediQuip, moderated by Scott Becker, JD, CPA, Partner, McGuireWoods LLP



Geoff Colvin

- **Can ASCs Profit Through Spine and Orthopedics - What Works Business Wise and Clinically** - Jeff Peo, Vice President Acquisitions & Development, Ambulatory Surgical Centers of America, Nader Samii, Chief Executive Officer, National Medical Billing Services, David Rothbart, MD, FAANS, FACS, FACPE, Medical Director, Spine Team Texas, moderated by Brad Gilbert, former Professional Tennis Player, World-Renowned Tennis Coach and Analyst for ESPN
- **The Mix of Business and Politics - Healthcare 2013** - Brent Lambert, MD, FACS, Principal and Founder, Ambulatory Surgical Centers of America, John Dietz, MD, Chairman, OrthoIndy, Meridian Surgical Partners, and Charles R. "Charley" Gordon, MD, Neurosurgeon and Co-founder, Texas Spine and Joint Hospital, moderated by Brad Gilbert, former Professional Tennis Player, World-Renowned Tennis Coach and Analyst for ESPN



Brad Gilbert

- **Spine Surgery - The Next Five Years** - David J. Abraham, MD, The Reading Neck & Spine Center, Johnny C. Benjamin, MD, Pro Spine, Khawar Siddique, MD, MBA, Spine Surgery, Board Certified, American Board of Neurosurgery, Spine Center, Cedars-Sinai Medical Center, and Rafe Sales, MD, Summit Spine Institute, moderated by Gretchen Heinze Townshend, Associate, McGuireWoods LLP
- **The Changing Role of Spine Surgery** - Richard N.W. Wohns, MD, JD, MBA, South Sound Neurosurgery, PLLC, Kenneth Pettine, MD, Founder, The Spine Institute and Loveland Surgery Center, Jeff Leland, Chief Executive Officer, Blue Chip Surgery Center Partners, Stephen



Forrest Sawyer

H. Hochschuler, MD, Texas Back Institute, moderated by Forrest Sawyer, Television Journalist and Entrepreneur in Innovation Health Care

- **Succeeding in the Face of Challenges - Core Strategies from the Front Line** - Charles R. "Charley" Gordon, MD, Neurosurgeon and Co-founder, Texas Spine and Joint Hospital
- **Talent is Overrated!** - Geoff Colvin, Senior Editor-at-Large, FORTUNE Magazine and Author, *Talent is Overrated*
- **The Quantum Shift in Orthopedic and Spinal Implant Strategy** - James J. Lynch, MD, FRCSI, FAANS, Board-Certified and Fellowship-Trained Spinal Neurosurgeon, Spine Nevada
- **The Best Ideas for Improving the Profits of Pain Management Driven Centers - Key Developments in Pain Management**, Scott Glaser, MD, DABIPP, Co-Founder and President, Pain Specialists of Greater Chicago, Fred N. Davis, MD, Clinical Assistant Professor, Michigan State University, College of Human Medicine, ProCare Research, ProCare Systems, and Nancy Bratanow, MD, Midwest Comprehensive Pain Care, Barry Karlin, Ph.D, Chief Executive Officer, Prospira PainCare, moderated by Barton C. Walker, Partner, McGuireWoods LLP
- **What Will Healthcare Reform Mean for Orthopedics, Spine, Pain Management and ASCs** - James J. Lynch, MD, FRCSI, FAANS, Board-Certified and Fellowship-Trained Spinal Neurosurgeon, Spine Nevada, Luke Lambert, CFA, CASC, Chief Executive Officer, Ambulatory Surgical Centers of America, Robert Murphy, Chairman and Founder, Murphy Healthcare Group, A. N. Shamie, MD, UCLA Spine Surgery, moderated by Forrest Sawyer, veteran Television Journalist and Entrepreneur in Innovative Healthcare
- **The Latest Development in Stem Cell Treatments as Applied to Spine** - Kenneth A. Pettine, MD, Founder, The Spine Institute and Loveland Surgery Center

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# Improving the Profitability of Your Orthopedic, Spine and Pain Management-Driven ASC – Thrive Now and in the Future

This exclusive orthopedic, spine and pain management-focused ASC conference brings together surgeons, physician leaders, administrators and ASC business and clinical leaders to discuss how to improve your ASC and its bottom line and how to manage challenging clinical, business and financial issues. Learn more in this 2 day event than anywhere else.

- 97 Sessions
- 130 Speakers
- 25 CEOs as Speakers
- 52 Physician Leaders as Speakers
- Mike Krzyzewski “Coach K” Head Men’s Basketball Coach, Duke University and Winningest Coach in NCAA Division I Men’s Basketball History
- Geoff Colvin, Senior Editor-at-Large FORTUNE Magazine and Author, Talent is Overrated
- Keynote panels led by Forrest Sawyer, Television Journalist and Entrepreneur in Innovation Health Care, and Brad Gilbert, former Professional Tennis Player, World-Renowned Tennis Coach and Analyst for ESPN

## The Becker’s ASC Review/ASC Communications difference:

- 1) Benefit from the efforts of Becker’s ASC Review and ASC Communications to attract attendees and speakers that are among the smartest people in the ASC industry today.
- 2) Take discussion and thinking to the highest levels, focusing on the physician-owners, medical directors, ASC administrators and business minded directors of nursing.
- 3) Access expert views from all sides of the ASC world.

## PROGRAM SCHEDULE

### Pre Conference – Thursday, June 13, 2013

11:00 – 5:00 pm	Registration Open
11:30 – 4:30 pm	Exhibitor Set Up
12:30 – 5:45 pm	Pre-Conference Sessions
5:45 – 7:00 pm	Reception, Cash Raffles and Exhibits

### Main Conference – Friday, June 14, 2013

7:00 – 8:00 am	Continental Breakfast and Registration
8:00 – 5:00 pm	Main Conference, Including Lunch and Exhibit Hall Breaks
5:00 – 6:00 pm	Reception, Cash Raffles and Exhibits

### Conference – Saturday, June 15, 2013

7:00am – 8:00am	Continental Breakfast and Registration
8:10am – 12:20pm	Conference

### Thursday, June 13, 2013

**11:00 – 4:30 PM**

#### Registration and Exhibitor Set up

#### Concurrent Sessions:

##### Track A - Improving Profits

##### Track B - Spine

##### Track C - Pain Management and Spine

##### Track D - Orthopedics

##### Track E - Business and Profitability Issues; Revenue Cycle; Managed Care Billing, Coding and Contracting for ASCs

##### Track F - Quality, Infection Control, Accreditation, Management

**12:30 – 1:10 PM**

#### A. Keys to Keeping Surgery Centers Profitable Business

Robert Zasa, MSHHA, FACMPE, Managing Partner and Founder, ASD Management, Doug Golwas, Senior Vice President, Medline Industries, Inc., Michael J. Lipomi, President & Chief Executive Officer, Surgical Management Professionals, moderated by Barton C. Walker, Partner, McGuireWoods LLP

#### B. Business Planning for Spine Driven Centers

Jeff Leland, Chief Executive Officer, Blue Chip Surgery Center Partners

#### C. Managing Pain Practice-Protocols, Branding and Other Tips to Improve Profitability

Vishal Lal, Chief Executive Officer, Advanced Pain Management

#### D. Bundled Contracting Initiatives for Orthopedics and Spine

Marshall Steele, MD, Medical Director, Stryker Performance Solutions

#### E. Key Trends in Valuing Practice Acquisitions

Aaron Murski, Senior Manager, VMG Health

#### F. Developing the Right Clinical Environment for Complex Spine and Orthopedic Cases

Linda Lansing, Senior Vice President Clinical Services, Surgical Care Affiliates

**1:15 – 1:55 PM**

#### A. ASC Roundtable: Outlook for Investment and M&A Activity in the ASC Sector

Michael Stroup, Vice President of Business Development, United Surgical Partners International, Inc., Matt Searles, Managing Partner, Merritt Healthcare, and Todd J. Mello, ASA, AVA, MBA, Partner, HealthCare Appraisers, Inc., Christy Heald, Senior Vice President of Development, Surgery Partners, moderated by Scott Becker, JD, CPA, Partner, McGuireWoods LLP

#### B. Moving Spine Procedures to ASCs- Key Business and Clinical Issues

Paul Schwaegler, MD, Seattle Spine Institute, PLLC, Richard Kube, MD, Chief Executive Officer, Founder & Owner, Prairie Spine & Pain Institute, moderated by Jeff Leland, Chief Executive Officer, Blue Chip Surgery Center Partners

#### C. Interventional Pain Management - New Concepts to Reduce ER Visits, Hospitalizations and Re-Admissions

Scott Glaser, MD, DABIPP, Pain Specialists of Greater Chicago

#### D. Succeeding in the Face of Challenges - Core Strategies from the Front Line

Charles R. “Charley” Gordon, MD, Neurosurgeon and Co-founder, Texas Spine and Joint Hospital

#### E. Benchmarking the Financial Solvency of an ASC

Rajiv Chopra, Principal and Chief Financial Officer, The C/N Group

## F. Risk Management as Applied to Adding Spine Procedures

Carol Hiatt, BSN, RN, LHRM, CASC, CNOR, Consultant and Accreditation Surveyor, Healthcare Consultants International

2:00 – 2:35 PM

## A. Utilizing Spine Cases to Improve the Profitability of Underutilized Poorly Performing ASCs

Chris Bishop, Senior Vice President, Acquisitions & Business Development, Blue Chip Surgery Center Partners

## B. The Best Ideas for Marketing Spine and for Patient Development

Jimmy St. Louis, MBA, MS, PMP, Chief Executive Officer, Advanced Healthcare Partners, Bob Reznik, MBA, President, Prizm Development, Inc., Jeff Leland, Chief Executive Officer, Blue Chip Surgery Center Partners, Daniel Goldberg, Chief Executive Officer and Creative Director, Gold Medical Marketing, moderated by Peter S. Cunningham, President, CCO Healthcare Partners, LLC

## C. Regional Market Strategies for Pain Management

Robin Fowler, MD, Chairman and Medical Director, Interventional Management Services, Stephen Rosenbaum, Chief Executive Officer, Interventional Management Services

## D. Emerging Orthopedic Procedures in ASCs - Business and Clinical Issues

Michael R. Redler, MD, The OSM Center

## E. Contracting for ASCs via ACOs, IPAs and Medical Groups

Robert Zasa, MSHHA, FACMPE, Managing Partner and Founder, ASD Management

## F. Most Common Accreditation Problems in Orthopedic, Spine and Pain-Driven ASCs

Steven A. Gunderson, DO, Chief Executive Officer, Medical Director, Rockford Ambulatory Surgery Center, Accreditation Association for Ambulatory Health Care

2:40 – 3:15 PM

## A. Emerging Business Issues in Spine Surgery

Stefan Prada, MD, Orthopedic Spine Surgeon, Laser Spine Institute, Christopher Duntzsch, MD, PhD, Clinical Director, Neurosurgeon, Texas Neurosurgical Institute, Patrick McCarthy, Chief Network Development Officer, Access MediQuip, Jeffrey Mason, President and Chief Executive Officer, Analytics, LLC, moderated by Scott Becker, JD, CPA, Partner, McGuireWoods LLP

## B. Deuk Laser Disc Repair® as a Novel, Safe and Effective Solution for Symptomatic Cervical Disc Disease

Ara Deukmedjian, MD, Chief Executive Officer and Medical Director, Deuk Spine Institute

## C. Intradiscal Biologics Injections for Mild to Moderate Degenerative Disc Disease

Timothy T. Davis, MD, DABNM, DABPMR, DABPM, Director of Interventional Pain and Electrodiagnostics, The Spine Institute, Center for Spinal Restoration Santa Monica, CA, President/CEO, Alpha Diagnostics, Intraoperative Neurophysiologic Monitoring Board of Directors, Spalding Surgery Center, Beverly Hills, CA, Board of Directors, American Board of Neurophysiologic Monitoring

## D. Key Steps to Improve Profits in Orthopedic Driven ASCs

Rajiv Chopra, Principal, The C/N Group, Gregory P. Deconciliis, PA-C, CASC, Administrator, Boston Out-Patient Surgical Suites, and Brian Brown, Regional Vice President of Operations, Meridian Surgical Partners, moderated by Molly Gamble, Associate Editor, Becker's Healthcare

## E. ACO Network Models - Trends and Considerations

Thomas Dixon, Associate Director, Health System Strategy and Kara Fleming, Director, Healthcare, Navigant

## F. Infection Control in ASCs - 10 Key Best Practices

Jean Day, RN, CNOR, Director of Clinical Operations, Pinnacle III

3:20 – 4:00 PM

## KEYNOTE PANEL

### A. Can ASCs Profit Through Spine and Orthopedics - What Works Business Wise and Clinically

Jeff Peo, Vice President Acquisitions & Development, Ambulatory Surgical Centers of America, Nader Samii, Chief Executive Officer, National Medical Billing Services, David Rothbart, MD, FAANS, FACS, Medical Director, Spine Team Texas, moderated by Brad Gilbert, former Professional Tennis Player, World-Renowned Tennis Coach and Analyst for ESPN

### B. The Best Strategies for the Next 5 Years

Brent W. Lambert, MD, FACS, Principal and Founder, Luke Lambert, CFA, CASC, Chief Executive Officer, Ambulatory Surgery Centers of America, moderated by Scott Becker, JD, CPA, Partner, McGuireWoods LLP

### C. The Evolution of EMR - What Works for ASCs Today and How Can You Realize an ROI

Robert Brownd, Director of Business Development, Surgical Notes

### D. Valuing ASCs and Physician Practices

Todd Mello, ASA, AVA, MBA, Partner, HealthCare Appraisers, Inc.

### E. Great Ideas on Purchasing Smarter

Jon Pruitt, Vice President of Procurement Solutions, Provista Inc. and Robert Haze, Administrator, Institute for Orthopaedic Surgery in Las Vegas

## F. Using Reprocessing to Reduce Costs

Timothy Merchant, Vice President of Sales, MEDISS - Medline Industries, Inc.

4:05 – 4:50 PM

## KEYNOTE PANEL: The Mix of Business and Politics - Healthcare 2013

Brent Lambert, MD, FACS, Principal and Founder, Ambulatory Surgical Centers of America, John Dietz, MD, Chairman, OrthoIndy, Kenny Hancock, President and Chief Development Officer, Meridian Surgical Partners, and Charles R. "Charley" Gordon, MD, Texas Spine and Joint Hospital, moderated by Brad Gilbert, former Professional Tennis Player, World-Renowned Tennis Coach and Analyst for ESPN

4:55 – 5:45 PM

## KEYNOTE: Victory Through Teamwork and Leadership

Coach Michael Krzyzewski "Coach K", Head Men's Basketball Coach, Duke University and Winningest Coach in NCAA Division I Men's Basketball History

5:45 – 7:00 PM

## Networking Reception, Cash Raffles and Exhibits

**Friday, June 14, 2013**

7:00 – 8:00 AM

## Registration and Continental Breakfast

8:00 – 8:10 AM – Introductions

8:10 – 8:55 AM

## KEYNOTE PANEL: The Changing Role of Spine Surgery

Richard N.W. Wohns, MD, JD, MBA, South Sound Neurosurgery, PLLC, Kenneth Pettine, MD, Founder, The Spine Institute and Loveland Surgery Center, Jeff Leland, Chief Executive Officer, Blue Chip Surgery Center Partners, Stephen H. Hochschuler, MD, Texas Back Institute, moderated by Forrest Sawyer, veteran Television Journalist and Entrepreneur in Innovative Healthcare

9:00 – 9:45 AM

## KEYNOTE PANEL: What Will Healthcare Reform Mean for Orthopedics, Spine, Pain Management and ASCs

James J. Lynch, MD, FRCSI, FAANS, Board-Certified and Fellowship-Trained Spinal Neurosurgeon, Spine Nevada, Luke Lambert, CFA, CASC, Chief Executive Officer, Ambulatory Surgical Centers of America, Robert Murphy, Chairman and Founder, Murphy Healthcare Group, A. N. Shamie, MD, UCLA Spine Surgery, moderated by Forrest Sawyer, veteran Television Journalist and Entrepreneur in Innovative Healthcare

9:45 – 10:15 AM

## Networking Break and Exhibits



## Concurrent Sessions:

**Track A - Improving Profits, Valuation and Transaction Issues**

**Track B - Spine**

**Track C - Pain Management & Spine**

**Track D - Orthopedics and Pain Management**

**Track E - Business and Profitability Issues;**

**Managed Care and Contracting for ASCs**

**Track F - Quality, Infection Control, Accreditation, Management**

**10:15 – 10:55 AM**

### A. The Quantum Shift in Orthopedic and Spinal Implant Strategy

James J. Lynch, MD, FRCSI, FAANS, Board-Certified and Fellowship-Trained Spinal Neurosurgeon, Spine Nevada

### B. Key Concepts to Improve the Profitability and Outcomes of Spine Programs

Kenneth Pettine, MD, Founder, The Spine Institute and Loveland Surgery Center, Timothy T. Davis, MD, DABNM, DABPMR, DABPM, Director of Interventional Pain and Electrodiagnostics, The Spine Institute, Center for Spinal Restoration, and Stephen H. Hochschuler, MD, Texas Back Institute, moderated by Scott Becker, JD, CPA, Partner, McGuireWoods LLP

### C. The Best Ideas for Improving the Profits of Pain Management Driven Centers, Key Developments in Pain Management

Scott Glaser, MD, DABIPP, Co-Founder and President, Pain Specialists of Greater Chicago, Fred N. Davis, MD, Clinical Assistant Professor, Michigan State University, College of Human Medicine, ProCare Research, ProCare Systems, Nancy Bratanow, MD, Midwest Comprehensive Pain Center, Barry Karlin, Ph.D, Chief Executive Officer, Prospira PainCare, moderated by Barton C. Walker, Partner, McGuireWoods LLP

### D. The Best Ideas for Orthopedics Now

Blair Rhode, MD, ROG, Sports Medicine, Orland Park Orthopedics, Jack M. Bert, MD, Adjunct Clinical Professor, University of Minnesota School of Medicine, Cartilage Restoration Center of Minnesota, Minnesota Bone & Joint Specialists, Ltd., Michael Redler, MD, The OSM Center, Moderator, Amber McGraw Walsh, Partner, McGuireWoods LLP

**10:15 – 11:35 AM**

### E. Cost Reduction and Benchmarking, 10 Key Steps to Immediately Improve Profits

Robert Westergard, CPA, Chief Financial Officer, Susan Kizirian, Chief Operations Officer, and Ann Geier, RN, MS, CNOR, CASC, Senior Vice President of Operations, Ambulatory Surgical Centers of America

**10:15 – 10:55 AM**

### F. Designing and Implementing High Performing Orthopedic Centers of Excellence

Marcia A. Friesen, RN, BS, HIA, MHP, FAIHQ, FACHE, President, Orthopedic Advantage Healthcare Consulting, LLC

**11:00 – 11:35 AM**

### A. Selling Your Practice or ASC, Valuation, Compensation, Non Competes Legal and

## Process Issues

Greg Koonsman, Senior Partner, VMG Health and Jack M. Bert, MD, Adjunct Clinical Professor, University of Minnesota School of Medicine, Cartilage Restoration Center of Minnesota, Minnesota Bone & Joint Specialists, Ltd., moderated by Scott Becker, JD, CPA, Partner, McGuireWoods LLP

### B. Spine Surgery - The Next Five Years

David J. Abraham, MD, The Reading Neck & Spine Center, Johnny C. Benjamin, MD, Pro Spine, Khawar Siddique, MD, MBA, Spine Surgery, Board Certified, American Board of Neurosurgery, Spine Center, Cedars-Sinai Medical Center, and Rafe Sales, MD, Summit Spine Institute, moderated by Gretchen Heinze Townshend, Associate, McGuireWoods LLP

### C. The Importance of Measuring Clinical Outcomes for Pain Management - The Use of Clinical Quality Outcomes to Measure the Best Value of Care

Fred N. Davis, MD, Clinical Assistant Professor, Michigan State University, College of Human Medicine

### D. Tough Coding & Billing Issues for Pain Management

Lisa Rock, President, National Medical Billing Services

### F. Optimizing Case Mix for Profit and Growth

Julie Bell, Administrator, Hawthorn Surgical Center, Rob Midelton, Director, Strategy, Surgical Care Affiliates

**11:40 – 12:20 PM**

### KEYNOTE - Talent is Overrated

Geoff Colvin, Senior Editor-At-Large, FORTUNE Magazine and Author, *Talent is Overrated*

**12:25 – 1:05 PM**

### KEYNOTE PANEL:

Frank Phillips, MD, Rush University Medical Center, Midwest Orthopaedics, Tom Mallon, Chief Executive Officer and Founder, Regent Surgical Health, John Peloza, MD, Director, Center for Spine Care, moderated by Geoff Colvin, Senior Editor-At-Large, FORTUNE Magazine and Author, *Talent is Overrated*

**1:05 – 1:55 PM**

### Networking Lunch and Exhibits

**1:55 – 2:35 PM**

### A. New Initiatives in Spine and Pain Management

Robert S. Bray, Jr., MD, Neurological Spine Surgeon, D.I.S.C. Sports & Spine Center, Fred N. Davis, MD, Clinical Assistant Professor, Michigan State University, College of Human Medicine, ProCare Research, ProCare Systems, John A. Carrino, MD, MPH, Associate Professor of Radiology and Orthopedic Surgery, Johns Hopkins University School of Medicine, and Laxmaiah Manchikanti, MD, Chief Executive Officer and Chairman of the Board, American Society of Interventional Pain Physicians, Moderator Scott Becker, JD, CPA, Partner, McGuireWoods LLP

### B. Outpatient Cervical Disc Arthroplasty

Richard N.W. Wohms, MD, JD, MBA, South

Sound Neurosurgery, PLLC

### C. The Latest Development in Stem Cell Treatments as Applied to Spine

Kenneth A. Pettine, MD, Founder, The Spine Institute and Loveland Surgery Center

### D. How a Hospital/Physician ASC JV Affects Physician Alignment and Investment Performance

Tom Mallon, Chief Executive Officer and Founder, and Jeffrey Simmons, Chief Development Officer, Regent Surgical Health

### E. Orthopedic and Spine Contracting - A Review of Cost Analysis for Orthopedic and Spine and How to Present and Negotiate with Payors

I. Naya Kehayes, MPH, Managing Principal and Chief Executive Officer

### F. Developing a Patient-Centric Business Model: Why Your ASC Needs to Put Patients First to Thrive in 2013

Dotty J. Bollinger, RN, JD, CASC, LHRM Chief Operating Officer, Laser Spine Institute

**2:40 – 3:10 PM**

### A. Evolving Business, Clinical and Competitive Issues in Spine and Pain

John Prunskis, MD, FIPP, President and Medical Director, Illinois Pain Institute, Ara Deukmedjian, MD, Chief Executive Officer and Medical Director, Deuk Spine Institute, and Danny Bundren, Vice President, Acquisitions and Development, Symbion Healthcare, moderated by Holly Carnell, Associate, McGuireWoods LLP

### B. Comparing the Reimbursement of Spine Procedures in ASCs vs. Hospitals

Richard N.W. Wohms, MD, JD, MBA, South Sound Neurosurgery, PLLC

### C. Can ASCs Still Profit From Anesthesia? A Review of OIG Guidance, Models and Risks

Michael Simon, MD, Regional Director North American Partners in Anesthesia, moderated by Scott Becker, JD, CPA, Partner, McGuireWoods LLP

### D. The 5 Most Important Issues Facing Pain Management

Laxmaiah Manchikanti, MD, Chief Executive Officer and Chairman of the Board, American Society of Interventional Pain Physicians

### E. Orthopedics and Spine - Best Clinical Practices

David Rothbart, MD, FAANS, FACS, FACPE, Medical Director, Spine Team Texas

### F. The Conversion of an ASC to an HOPD - The Key Issues, The Pros and Cons and the Process

Kenneth Faw, MD, Evergreen Surgery Center, Neil Johnson, Senior Vice President and Chief Operating Officer, Evergreen Healthcare

**3:10 – 3:40 PM**

### Networking Break & Exhibits

**3:45 – 4:20 PM**

### Intra-Operative Epidural Anesthetic Injection for Control of Immediate Post Operative Pain in PACU after Lumbar Spinal Surgery

Fred H. Geisler, MD, PhD, Chicago Back Institute, Swedish Covenant Hospital



## B. Complex Cervical Spine - Key Developments

Krzystof (Kris) Siemienow, MD, Adult and Pediatric Spine Surgery, Lutheran General Hospital, University of Illinois at Chicago

## C. Getting Started with Spine Surgery in ASCs - 6 Key Concepts

John Peloza, MD, Director, Center for Spine Care

## D. Intraoperative Monitoring for Spine Cases in the ASC Setting - Understanding the Technology and What a Surgery Center Should Pay for and Should Not Pay For

Timothy T. Davis, MD, DABNM, DABPMR, DABPM, Director of Interventional Pain and Electrodiagnostics, The Spine Institute, Center for Spinal Restoration

## E. Assessing the Profitability of Orthopedics and Spine Cases

Christine Henry Musa, Director of Business Development and Matt Lau, Corporate Controller, Regent Surgical Health

## F. Changing Anesthesia Providers - The Playbook for a Simple and Sustainable Transition

Charles Militana, MD, Director of Ambulatory Surgery Centers, North American Partners in Anesthesia, Dorothy & Alvin Schwartz Ambulatory Surgical Center, North American Partners in Anesthesia

4:25 - 5:00 PM

## A. Physician Partnership Models

Christian Ellison, Vice President, Health Inventures, LLC

## B. Current Issues in Minimally Invasive Spinal Surgery

Raqeeb M. Haque, MD, Columbia University Medical Center

## C. New Concepts in Prescribing Opioids

Carlos Roman, MD, Arkansas Specialty Orthopaedic Surgery Center and Pain Care Center

## D. Key Developments in the Spine Device and Implants Arena

Frank Phillips, MD, Rush University Medical Center, Midwest Orthopaedics and Nameer R. Haider, MD, Spinal & Skeletal Pain Medicine, moderated by TBD

## E. Debunking the Myths of Out-of-Network Reimbursements

John Bartos, JD, Chief Executive Officer, Collect Rx

## F. Emerging Issues in ASC and Healthcare Litigation

Jeffrey Clark, Partner, David J. Pivnick, Associate, and James J. Schanaberger, Associate, McGuireWoods LLP

## Roundtable Discussions

10:15 - 10:55 am

## How Should Orthopedic Surgeons View Their Relationship With Their Center? Convenient, Financial and/or Clinical

Gregory P. DeConciliis, PA-C, CASC, Administrator, Boston Out-Patient Surgical Suites, LLC, and Anthony Schena, MD, Orthopedic Surgeon

11:00 - 11:35 am

## The 5 Most Common Hiring Mistakes and How to Avoid Them

Greg Zoch, Partner & Managing Director, Kaye Bassman

1:55 - 2:35 pm

## Educating Your Staff Surgeons, What it Costs the ASC When They Enter the OR

Sev Hrywnak, MD, Chief Executive Officer, The Sev Group, LLC

2:40 - 3:10 pm

## Orthopedic Instrumentation and Its Challenges for Reprocessing

Stephen Kovach, Educator, Healthmark Industries

3:45 - 4:20 pm

## Documentation in an Era of ICD-10 and RAC

Tim Meakem, MD, Medical Director, ProVation Medical

4:25 - 5:00 pm

## Electrical Anesthesia - A New Era in Pain Management

Frank Kousaie, MD, Crystal Clinic

5:00 - 6:00 PM

## Networking Reception, Cash Raffles & Exhibits

**Saturday, June 15, 2013**

7:15 - 8:10 am - Continental Breakfast

8:10 - 8:55 AM

## A. Orthopedic, Spine and Pain Management Practices and ASCs - 6 Defining Issues

R. Blake Curd, MD, Board of Directors Chairman, Surgical Management Professionals, C. David Geier, Jr., MD, Orthopedic Surgeon, Director, MUSC Health Medical University of South Carolina, Carlos Roman, MD, Arkansas Specialty Orthopaedic Surgery Center and Pain Care Center, moderated by Scott Becker, JD, CPA, Partner, McGuireWoods LLP

## B. Will Non Physicians Compete Aggressively with Pain Management Physicians- Key Legislative and Business Issues

Graf Hilgenhurst, MD, Chief Physician and Founder, Precision Pain Care

## C. ACOSs and the ASC, How to Prepare to Enter One

Sev Hrywnak, MD, Chief Executive Officer, The Sev Group, LLC

## D. Maximize and Leverage Your Vendor Relationships

Arthur Casey, BSBA, CASC, Senior Vice President of Business Development, Outpatient Healthcare Strategies, President, Board of Ambulatory Surgery Certification

8:55 - 9:30 AM

## A. Recovery Care Services in Orthopedic and Spine ASCs

John D. Newman, Senior Vice President and General Counsel, Constitutional Surgical Centers

## B. Legal Aspects of Spine Surgery

David Shapiro, MD, CHC, CHCQM, CHPRM, LHRM, CASC, Partner, Ambulatory Surgery Company, LLC

## C. The Emerging Use of Social Media in Orthopedics

C. David Geier, Jr., MD, Orthopedic Surgeon, Director, MUSC Health Medical University of South Carolina

## D. Three Strategies to Control Labor Cost at Your Surgery Center

Thomas H. Jacobs, President & Chief Executive Officer, MedHQ

9:35 - 10:10 AM

## A. Vendor Market Intelligence - An Industry Overview of ASCs

Susan E. Charkin, MPH, President, Healthcents, Inc.

## B. New Advances in Sacroiliac Joint Problems

Richard A. Kube, MD, Chief Executive Officer, Founder & Owner, Prairie Spine & Pain Institute

## C. Anesthesia For Outpatient Spine Surgery

David Paly, MD, Board Certified in Pain Medicine and Anesthesiology, South Sound Neurosurgery Brain & Spine Center

## D. Key Tips for Quality Assurance and Infection Prevention

Nicole Gritton, MSN/MBA, Director of Nursing, Laser Spine Institute

10:15 - 10:50 AM

## A. How Doctors Form ACOs - A Success Story

John Venetos, MD, Gastroenterologist John Venetos, Ltd.

## B. How to Achieve Significant Savings With a GPO: Q & A

Amy Gagliardi, Vice President, Supply Chain, Regent Surgical Health

## C. 5 Key IT Issues for ASCs and Practices

Todd Logan, Vice President, Sales, Western Region, Source Medical Solutions

## D. 15 CPT and Coding Issues for Orthopedics and Spine

Stephanie Ellis, RN, CPC, Owner and President, Ellis Medical Consulting, Inc.

10:55 - 11:30 AM

## A. Handling the Crises with Compounding Pharmacies

Faisal Rahman, PhD, Chief Executive Officer and President, APAC Partners, LLC

## B. Cervical Myelopathy

Fernando Techy, MD, Adult & Pediatric Spine Surgery, Lutheran General Hospital, University of Illinois at Chicago

## C. Joint Ventures, What Works and What Fails

Katherine Lin, Associate, Helen Suh, Associate, McGuireWoods LLP, moderated by Scott Becker, JD, CPA, Partner, McGuireWoods LLP

11:35 - 12:20 PM

## Key ASC Legal Issues for 2013

Scott Becker, JD, CPA, Partner, Holly Carnell, Associate, Gretchen Heinze Townshend, Associate and Katherine Lin, Associate, McGuireWoods LLP

12:20 PM - Meeting Adjourns

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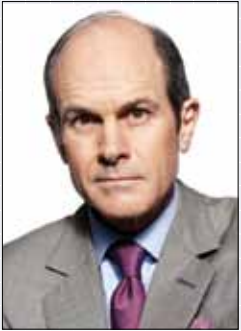


## Mike Krzyzewski

*Head Men's Basketball Coach, Duke University and Winningest Coach in NCAA Division I Men's Basketball History*

As head coach of the Duke Blue Devils for over 30 years, Basketball Hall of Famer coach Mike Krzyzewski has made a career of motivating people both on and off the court. Affectionately known as "Coach K," Krzyzewski coached both the 2008 and 2012 U.S. men's national teams to back-to-back gold medals in the Olympics. During his tenure as the head coach of Team USA, Coach K amassed an astounding 62-1 and returned U.S. men's basketball to dominance on the world stage.

In 2011, *Sports Illustrated* named Krzyzewski its Sportsman of the Year. In 2009, *Sporting News* also named Krzyzewski one of the 50 greatest coaches in any sport of all time. Krzyzewski also has an impressive resume as a best-selling author including *Leading with the Heart* which reached *The New York Times* best seller list in 2000. His two most recent books *Beyond Basketball: Coach K's Keywords for Success*, released in 2006, and *THE GOLD STANDARD: Building a World-Class Team*, released in 2009, were co-authored by his youngest daughter, Jamie Spatola.



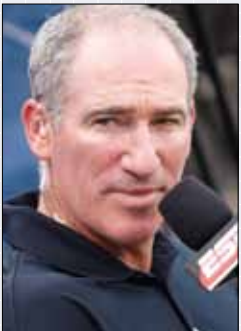
## Geoff Colvin

*Senior Editor-at-Large, FORTUNE Magazine and Author, Talent is Overrated*

Geoff Colvin is an award-winning thinker, author, broadcaster, and speaker on today's most significant trends in business. As FORTUNE's Senior Editor-at-Large, he has become one of America's sharpest and most respected commentators on leadership, globalization, wealth creation, the infotech revolution, and related issues. As anchor of *Wall Street Week with FORTUNE* on PBS, he spoke each week to the largest audience reached by any business television program in America.

Colvin's groundbreaking bestseller *Talent Is Overrated: What Really Separates World-Class Performers From Everybody Else* received the Harold A. Longman Award for Best Business Book of the Year and has been published in a dozen languages.

Colvin is one of America's preeminent business broadcasters. He is heard daily on the CBS Radio Network, where he has made over 10,000 broadcasts and reaches seven million listeners each week. He has appeared on *Today*, *The O'Reilly Factor*, *Good Morning America*, *Squawk Box*, *CBS This Morning*, ABC's *World News*, CNN, PBS's *Nightly Business Report*, and dozens of other programs.



## Brad Gilbert

Brad Gilbert is a former professional tennis player, world-renowned tennis coach and analyst for ESPN. Born in Oakland, California, Gilbert was a successful collegiate tennis player and reached the finals of the NCAA championship for Pepperdine University in 1982. He joined the professional tour that same year and went on to win 20 ATP top-level singles titles throughout his career.

Gilbert is the best-selling author of *Winning Ugly*, an instructional book geared towards recreational tennis players to help improve their mental game. In 2005 he released his second book, *I've Got Your Back*, in which he describes his coaching methods and what it takes to win under extreme pressure – on and off the court.

Gilbert has served as a tennis analyst for ESPN since 2004, covering major tournaments such as Wimbledon, the US Open, the French Open and Davis Cup play.



## Forrest Sawyer

Forrest Sawyer has had a diverse career, first as one of America's most respected television journalists, and more recently as an entrepreneur in innovative health care.

Mr. Sawyer is today an advisor and board member of Edison Pharmaceuticals, the world leader in the study of mitochondrial disease. He is also a co-founder of Ampere Life Sciences, a newly launched company developing medical and functional foods targeting antioxidant deficiencies. In addition to unique research and development programs, both companies are building innovative communication platforms.

As a journalist, Mr. Sawyer has over 24 years of experience reporting from around the world. He is a veteran of ABC, CBS, and MSNBC. He has anchored the ABC magazine programs *Day One* and *Turning Point*, as well as *World News Sunday*, and *Good Morning America*. For a decade Mr. Sawyer was the primary replacement anchor on ABC's *Nightline*.

Mr. Sawyer is the founder of FreeFall Productions, an award-winning documentary production company. He has reported documentaries for ABC News, MSNBC, Frontline and the Discovery Networks.



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


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# Spine Imaging: 5 Strategies for Meeting “Milliman Criteria” Requirements

By Douglas Smith, MD, Founder of Musculoskeletal Imaging Consultants

**T**he Milliman accounting firm has proposed a series of clinical and imaging criteria to satisfy and document as best practice before a surgical procedure is performed. Many insurance companies have adopted the Milliman criteria as absolute requirements before approving surgical fusions and other procedures and will reject pre-authorization unless each of the Milliman criteria are specifically documented in the medical records submitted in the pre-authorization packet. Ideally, the entire pre-operative evaluation process would be designed to document the Milliman criteria. Technology and terminology best practices must be adopted and all members of the preoperative planning team must be sensitive to the importance of documenting how the Milliman criteria are satisfied in each patient's medical record. Here are some components of Milliman sensitive pre-operative evaluation process.

## Use weight-bearing imaging techniques to demonstrate maximal compression of neural structures and spinal instability.

Patients experience more pain and radiculopathy when weight-bearing than when lying down. A UCLA study demonstrated 30 percent more nerve compressions than MRI examinations obtained in recumbent position. European experience with the Esaote C-scan Brio (weight-bearing MRI) during the past five years reports similar increased sensitivity. Increased size of disc herniation, buckling of ligamentum flavum, increased listhesis, and increased neural compression have all been documented using weight-bearing MRI images compared to the recumbent images performed at the same sitting. Weight-bearing MRI should improve the chances of successful surgical pre-authorization by 20 to 30 percent.

## Utilizing technology and techniques optimized for documenting spinal instability.

Biomechanical instability is a complex, dynamic process with three-dimensional components that is difficult to fully characterize in any single measurement. Experienced spine surgeons apply a Gestalt overview appraisal that comes with experience.

### a. Decubitus positioning is more sensitive than upright flexion extension views for documenting spinal instability.

Unfortunately the “Milliman criteria” apply only translational displacement of the vertebral bodies on plain radiographs obtained in the standing position in flexion/extension and lateral bending. One look at a standing patient with back spasm would demonstrate the inherent flaw in this process. The spasm is designed to apply muscular control to limit excessive motion or neural compression but it also restricts the amount of measurable intervertebral translation. Muscle spasm decreased when the anti-gravity muscles are relaxed when the imaging is obtained in lateral decubitus position. Coach your radiographer to allow the patient to relax in lateral decubitus position and allow muscle spasm to ease before slowly curling into a ball (flexing) and then extending. If the patient is rushed, the muscles spasm and one will not see the true spinal translation. Remember a technologist rushing a patient with muscle spasm may mean that their surgery will be denied if their muscle spasm hides their instability. Just like surgery — it's all about technique!

### b. Computerized analysis of controlled spinal motion during lateral bending and flexion-extension.

Linear and angular measurements of curved vertebral bodies have inherent inter-observer and intra-observer error. Three-dimensional scoliosis must be accounted for by the radiologist during measurement. Ortho Kinematics has a developed novel solution using patent pending computer analysis of fluoroscopic images of the spine in both controlled motion flexion/extension and lateral bending to more accurately and reliably document the complex motion of the unstable spine. We are currently comparing these results to conventional flexion/extension radiographs. I believe that this objective measurement technique of controlled spinal motion will become the new gold standard for documenting spinal instability.

### c. Milliman criteria sensitive radiology reports from dedicated spinal radiologists

The radiology findings section must specifically document the magnitude of translational and rotational motion and specifically state whether it meets the Milliman instability criteria. MRI and CT reports should specifically document the magnitude of any compression of the spinal cord or nerve roots, spinal canal dimensions and the severity of any neural compression. Attaching the key images demonstrating measurements made by the radiologists (RadPics®) using digital calipers directly to the report will greatly improve your surgical pre-authorization success rate.

### d. Close working relationship between the Surgeon, Patient and Radiologist.

It is imperative that the radiologist responsible for documenting the imaging section of the Milliman criteria be aware of all of the components of the patient's history and clinical features so that the report generated will accurately address all of the requisite Milliman criteria required for successful surgical pre-authorization for your patient. If you are looking for instability in an exam, let your radiologist know. In many cases, the detail and clinical usefulness of the study is directly proportional to the quality of the history and knowledge of the working diagnosis and surgical plan.

### e. Systematic approach to demonstrating and documenting instability

Create a checklist or program to make sure you have all the documentation necessary from the beginning. State of the art technology, attention to detail, a systematic approach and optimized radiology reporting by dedicated spine imagers will greatly improve your surgical pre-authorization rate. ■

*At Spinal Motion Assessment Laboratory of San Antonio, we incorporate all of these cutting edge modalities into our spinal instability assessment process using weight-bearing MRI by Esaote C-scan Brio, computerized assessment of controlled motion fluoroscopic examination by Ortho Kinematics, and generate a “Milliman Criteria” sensitive, clinically oriented, radiology report containing annotated key images (RadPics®) by dedicated spine imagers.*

# Incorporating Weight-Bearing MRI Into Spine Practices: Q&A With Dr. Douglas Smith of Musculoskeletal Imaging Consultants

By Laura Miller

Douglas Smith, MD, founder of Musculoskeletal Imaging Consultants, discusses what it takes to incorporate weight-bearing MRI into spine practices.

**Q: How can weight-bearing MRI be incorporated into the surgeon's practice?**

**Dr. Douglas Smith:** Weight-bearing MRI such as the Esaote G-scan Brio provides a cost-effective MRI solution for orthopedic and spine practices that desire an in-office MRI unit that excels in the spine but can also examine the hip, shoulder and remainder of the joints with high quality. The price and operating costs are less than 1/3 of other comparable technology on the market.

**Q: What are the advantages of using weight-bearing technology over other types of MRI?**

**DS:** Patients more frequently experience pain from nerve root compression, spinal stenosis, or instability when standing or weight-bearing than when recumbent and research and European experience have shown 20

to 30 percent larger or more frequent findings with weight-bearing than non-weight-bearing position. Fast cine flexion-extension views can also be performed of the cervical spine. The newer technology includes high efficiency surface coils that produce images of similar quality to high field strength magnets at a much more favorable price point.

**Q: How does this new technology impact patient care?**

**DS:** New weight-bearing MRI is an ideal choice for patients whose symptoms only occur or are worse when standing or weight-bearing. Recumbent MRI scanning of many of these patients would fail to explain their symptoms and they would not receive the proper treatment and suffer needlessly. The Brio has a unique open design and the patients head remains clear outside the scan area.

**Q: Where is the trend of weight-bearing MRI headed in the future?**



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**DS:** In the past, upright MRI was not a cost effective solution and produced low resolution images. At last, there is cost-effective method of obtaining high quality weight-bearing imaging of the spine in addition to high quality imaging of all extremities in an open MRI design. I think this will revolutionize orthopedic and spine imaging. Remote operation and online consultation with the radiologist is made possible by the use of a Windows operating system.

**Q: How do you anticipate that weight-bearing MRI will impact orthopedic and sports medicine practices?**

**DS:** MRI during weight-bearing examines the lower extremities in the position where they experience pain. Weight-bearing stresses the labrum of the hip, the menisci of the knee and osteochondral lesions of the knee and talar dome. There are some lesions that can only be evaluated fully during weight-bearing, like sports hernias, high ankle sprains and patellofemoral instability and midfoot or subtalar instability. I believe that functional MRI during weight-bearing will revolutionize orthopedic imaging and

is now feasible for many orthopedic and spine practices.

**Q: How can surgeons acquire weight-bearing MRI systems? Is it profitable? How can they make it that way?**

**DS:** Companies such as Esaote have a national sales and service team available online. For interested parties, there is a turn-key management solution that can provide installation and operational consultation, technologists, IT services, RIS/PACS, medical directorship, certification/accreditation, data archive and investment protection if in-office exemption is repealed. Literally all a practice would need to provide is a site. A typical spine or orthopedic practice would only need to perform three to four MRI examinations per day for the scanner to be profitable. ■



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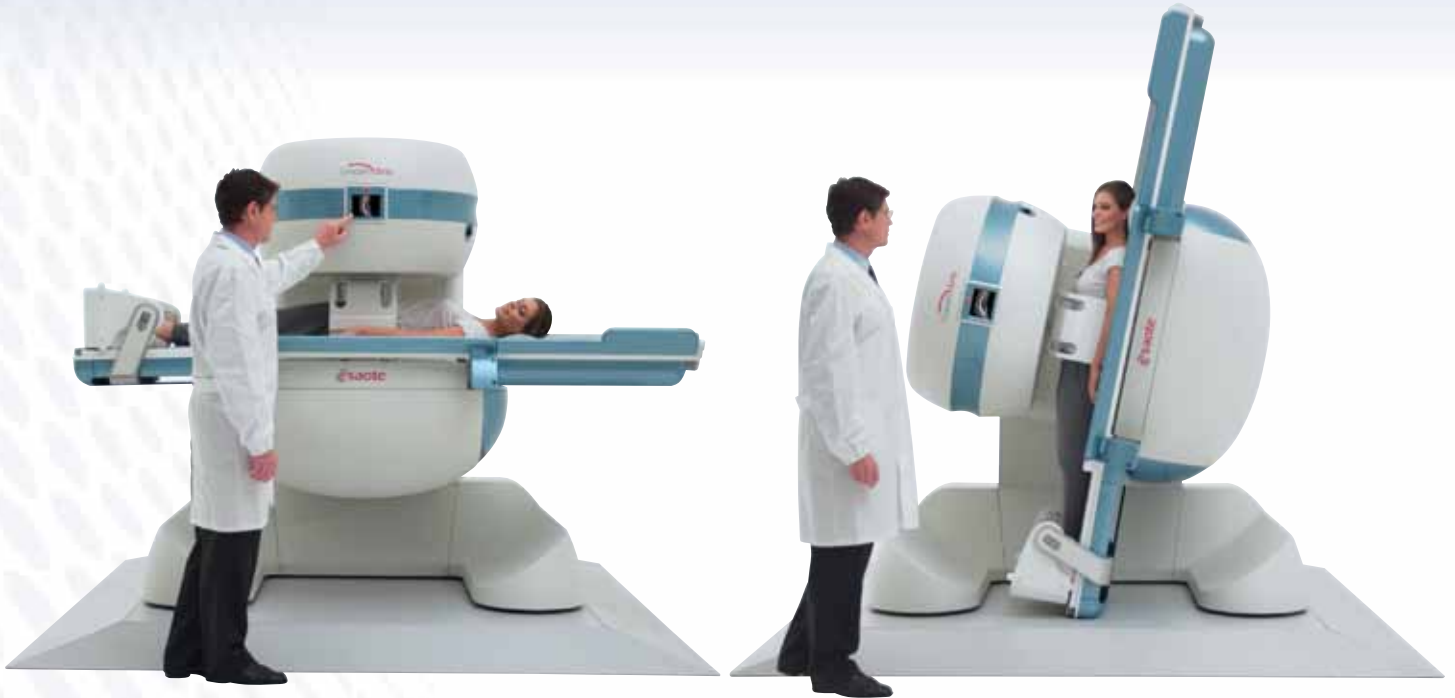


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# 5 Big Opportunities for Spine Surgery Research & Development

By Laura Miller

**1. Clinical outcomes research.** There will be a huge focus on clinical effectiveness in the future, which means providing evidence-based outcomes. The government and insurance companies will be asking for comparative effectiveness research before agreeing to cover some procedures and patients will want to know their provider has good outcomes before undergoing treatment.

“Traditionally a lot of spine research has been on surgical techniques and on new or innovative surgical products, and I think that is still important, but a greater degree of impact will come out of research that looks at spine research as health outcomes research,” says Alpesh A. Patel, MD, FACS, spine surgeon and Associate Professor in the Department of Orthopaedic Surgery at Northwestern University School of Medicine in Chicago. “We need to really look at the patient-based outcomes for what we do. A lot of that is still in a black box, and not everyone understands how patients are doing after surgery.”

Surgeons can also take their research a step further to gather population-based outcomes, which gives them the ability to study a whole range of issues — such as genetics, epidemiology, readmissions and cost-effectiveness in addition to clinical quality.

“Research is more powerful when it’s done at the population level,” says Dr. Patel. “It makes what we do more relevant. We can look at a population of people with back pain and determine how effective our current treatments really are.”

**2. Patient database development.** Health systems, national organizations and even physician practices have begun collecting patient data in large registries or databases for more accessible research. Electronic medical records have helped gather this data, but new efforts are connecting different individual registries so surgeons can mine large patient populations from around the country to really understand how effective treatments are.

“Some of the large databases are becoming available to use and registry tools are being developed,” says Dr. Patel. “There are going to be a lot of surgeons involved and they will have an immediate impact on the care we provide patients. It will let us hone in and refine the things we do well. At a base level, it could serve as benchmarking for everyone, but also improve the quality of care development.”

Technology now allows private practice surgeons to contribute their data to registries and study outcomes from large patient populations, so research isn’t just for the academicians anymore.

“Surgeons at the large academic centers are the ones who are mostly engaged in research studies,” says Samuel K. Cho, MD, spine surgeon and Assistant Professor of Orthopaedics in the Leni and Peter W. May Department of Orthopaedics at the Icahn School of Medicine at Mount Sinai in New York City. “However, increasingly more surgeons who aren’t affiliated with academic institutions are doing research now. I would encourage that, and it all begins by maintaining patient profile data. This will not only help them to review their own outcomes, but also amass data from multiple surgeons into a study group to enhance the number of patients involved. Then surgeons can get funding for their study groups and through discussion come up with new and interesting ideas.”

**3. Stem cells and biologics.** While the application of many biological treatments is still decades away, significant advancements are being made in the field. Synthetic biologics such as bone morphogenetic protein have be-

come more common in spinal fusion procedures and will continue to develop.

“Biologics is a huge topic in spine surgery right now, especially with controversy surrounding BMP,” says Dr. Cho. “There are other biologics either on the market or in the process of being developed that will contribute to spine surgery, specifically the clinical trials for OP-1 and GDF-5. Biologic agents either for spinal fusion or spinal cord injury and neuro-protection are also in clinical trials. These areas will be interesting to watch as they develop.”

Other treatments, such as disc regeneration, will require much more research and development down the road.

“Regenerative and stem cell treatments are wonderful projects to work on, but we haven’t seen a tremendous clinical impact yet,” says Dr. Patel. “From an innovation standpoint, that’s where we are going to see spine surgery heading. It will come to the point where we know how it works and is safe and cost-effective, but that’s pretty far removed. However if surgeons are looking at research careers, biologics is a fantastic field to pursue.”

**4. Cost-effectiveness.** As the Patient Protection and Affordable Care Act restructures the healthcare system, all stakeholders are going to pay close attention to the cost of care. In this emerging environment, cost-effectiveness research will play a key role in coverage and treatment decisions in the future.

“We as spine surgeons are obligated to demonstrate cost-effectiveness to the government and other agencies for our treatments,” says Dr. Cho. “The entire field of medicine is focused on cost-effective research.”

Expect to see more studies conducted that analyze the cost for an episode of care, comparing different treatment options. This will include not only the cost of the procedure, but also preoperative care, anesthesia, postoperative rehabilitation, hospital stays, loss of work days and associated complications.

“The ultimate goal of translation or clinical research is to help guide us to either perform a surgery better or at a lower cost with the same or better outcomes,” says Dr. Cho. “If a certain procedure is effective but costs are prohibitive, we may be in a situation where we need to find an alternative or come up with ways to cut costs down. At the end of the day, that procedure may not be approved or reimbursed.”

**5. Artificial discs and motion preservation.** Research and innovation in spine surgery over the past decade has focused on motion preservation techniques, and some companies have brought artificial discs to the marketplace. While current clinical studies are still in the works for long-term data with cervical discs, lumbar discs have been widely abandoned in the United States.

“Five-year data suggests that cervical artificial discs are better or equivalent to anterior fusions, but adjacent segment disease and revision opera-



Dr. Alpesh Patel



Dr. Samuel Cho

tions are similar between the two groups,” says Dr. Cho. “In the long term, we will have to see whether disc replacement can truly cut down on re-operation for adjacent segment disease.”

Outcomes for new disc replacement designs are currently being studied overseas, but it will likely take time before these developments move to the United States, if proven effectively. In the young field of motion preservation, there is plenty of room for future development.

“In 10 years, if data comes out suggesting the use of an artificial device can decrease adjacent segment disease rates, people will be more likely to use that device instead of the conventional ACDI,” says Dr. Cho. ■

## Discectomy for Disc Herniation Could Save \$2.1 Billion Over Non-Surgical Treatment

By Laura Miller

**T**reatment for orthopedic and spine injuries and conditions can have a huge economic impact on individuals, as well as society. However, untreated orthopedic injuries and conditions often leave people unable to work, placing additional economic strain on patients and families. At the American Academy of Orthopaedic Surgeons Annual Meeting 2013, Past President John R. Tongue, MD, moderated the Presidential Symposium titled “The Economic Value of Orthopaedic Surgery.”

KNG Health Consulting was commissioned to conduct a study on the societal and economic value of musculoskeletal care with its partner, IHS Global Insight, by AAOS. One of the treatments they discussed was disc herniation.

Patients who underwent discectomy for disc herniation had an increased QALY, but also increased direct medical cost of \$14,202 on average, according to the report. However, these costs were offset by societal benefits of \$24,024, including \$23,121 from higher rate of employment and income. Around \$606 came from fewer missed work days.

The net societal savings per person who underwent discectomy was \$9,822 during a four-year period, and the authors of the report estimated discectomy for disc herniation could “generate a total net societal savings of \$2.1 billion” when compared with non-surgical treatment. ■

## 18 Spine Surgeon & Specialist Appointments and Accomplishments

By Carrie Pallardy

**H**ere are 18 spine surgeons and specialists that were recently appointed to prestigious positions or achieved notable accomplishments.

**John Liu, MD**, and **Frank Acosta, MD**, were recruited by the University of Southern California to help expand the spine team at Keck Medical Center. Dr. Liu will serve as the director of the spine division at the Keck School of Medicine, and Dr. Acosta will serve as an associate professor of neurosurgery.

**Benjamin A. Alman, MD**, has been named the new chair of orthopedic surgery at Duke University.

The newly-created Society for Advanced Spinal Intervention has appointed **Andrea Trescot, MD**, and **Gung Choi, MD** to its board of directors.

AAOS awarded **Mark H. Gonzalez, MD**, the 2013 Diversity Award. Dr. Gonzalez is professor and chairman of the department of orthopedics at the University of Illinois at Chicago. He accepted UIC's first female African American orthopedic resident, also the first female member of the orthopedic faculty.

Aurora BayCare Medical Center in Green Bay, Wis., honored its neurology department and neurosurgeon **Wesley Griffith, MD**, with the medical research innovation award in neurosurgery.

**Eric Grigsby, MD**, of Napa Pain Institute, performed the first minimally invasive spine surgery using the Totalis Direct Decompression procedure at Napa Surgery Center in Valle Verde, Calif.

**Kenneth Hansraj, MD**, an orthopedic spine surgeon, launched his new book titled, *Keys to an Amazing Life: Secrets of the Cervical Spine*.

Spine surgeon **Isador Lieberman, MD**, received the Golden Apple Award from Health Volunteers Overseas for his work with the Uganda Spine Surgery Mission.

**James Lynch, MD**, has been named a top neurological surgeon in Nevada by the Leading Physicians of the World.

The NeuroSpine Institute of Orlando, founded by neurosurgeon **Robert Masson, MD**, has opened its first ambulatory surgery center.

**Joan O'Shea, MD**, owner and director of the Spine Institute of Southern New Jersey, organized an event to help those affected by Hurricane Sandy.

**George Rappard, MD**, neurointerventional surgeon, has opened the Los Angeles Minimally Invasive Spine Institute.

**Lee Tessler, MD**, a board certified neurosurgeon, has received the Aleh Foundation community service award for excellence in medical care.

The *Journal of Neurosurgery: Spine* has appointed **Alexander R. Vaccaro, MD, PhD**, as co-chairman of its editorial board. Dr. Vaccaro is the first full-time orthopedic surgeon to fill the position.

**Robert Watkins, MD**, performed a successful microscopic lumbar discectomy on Shaun Cody, defensive tackle for the Houston Texans.

**Anthony Yeung, MD**, has donated \$2.5 million for the creation of a comprehensive spine center at the University of New Mexico School of Medicine. ■



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Geoff Colvin

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Brad Gilbert

- **Spine Surgery - The Next Five Years** - David J. Abraham, MD, The Reading Neck & Spine Center, Johnny C. Benjamin, MD, Pro Spine, Khawar Siddique, MD, MBA, Spine Surgery, Board Certified, American Board of Neurosurgery, Spine Center, Cedars-Sinai Medical Center, and Rafe Sales, MD, Summit Spine Institute, moderated by Gretchen Heinze Townshend, Associate, McGuireWoods LLP
- **The Changing Role of Spine Surgery** - Richard N.W. Wohns, MD, JD, MBA, South Sound Neurosurgery, PLLC, Kenneth Pettine, MD, Founder, The Spine Institute and Loveland Surgery Center, Jeff Leland, Chief Executive Officer, Blue Chip Surgery Center Partners, Stephen



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H. Hochschuler, MD, Texas Back Institute, moderated by Forrest Sawyer, Television Journalist and Entrepreneur in Innovation Health Care

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- **Talent is Overrated!** - Geoff Colvin, Senior Editor-at-Large, FORTUNE Magazine and Author, *Talent is Overrated*
- **The Quantum Shift in Orthopedic and Spinal Implant Strategy** - James J. Lynch, MD, FRCSI, FAANS, Board-Certified and Fellowship-Trained Spinal Neurosurgeon, Spine Nevada
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- **The Latest Development in Stem Cell Treatments as Applied to Spine** - Kenneth A. Pettine, MD, Founder, The Spine Institute and Loveland Surgery Center

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# The Future of Spine Innovation: Q&A With Dr. Hyun Bae of Cedars-Sinai Medical Center

By Heather Linder

**H**yun Bae, MD, is the Director of Education at Cedars-Sinai Medical Center and the Medical Director of the Spine Institute in Santa Monica. He has researched stem cell repair for degenerative disc disease and the use of growth factors to treat spinal cord injuries. He was among the first to use growth factor tissue engineering for intervertebral discs and chaired the “Spine Across the Sea” meeting in 2012 for the North American Spine Society.

Here are Dr. Bae’s expectations for the future of spine innovation and devices.

**Question: Where do you see spine implant innovation heading?**

**Dr. Hyun Bae:** We are going to see very little innovation because the pathway is very difficult. It’s arduous to get a novel device through the FDA. I’ve seen many devices go through the FDA process that never got approval. Companies are getting very cautious about spending the amount of money that it takes to complete the trial with the risk of eventual denial.

A recent example is [Spinal Kinetics] M6, a great cervical disc used in Europe for a long time. Recently, they’ve withheld their trial in the U.S., thinking it may be too costly and risky. I think that in the U.S., implant-related innovation that requires an [Investigational Device Exemption] is going to be pretty rare.

**Q: What type of innovation do you expect to become more prevalent?**

**HB:** The clinical trials we are going to see for new devices and procedures will not target minimally invasive surgery but minimally invasive procedures. They will be targeting early intervention in the spinal disease cascade for interventional spine specialist and less so for spinal surgeons. Before, most of the trials were for spinal surgeons. The new clinical trials will be before both.

There is a tremendous amount of interest in clinical trials looking at degenerative disc disease and treatment of low back pain. Recent device trials were centered on disc replacement but now treatments are centered on regenerative therapies which can be performed at surgery centers, such as injecting discs with fibrin glue or stem cells and early cartilage cell growth factors. All of these clinical trials that involve the injection of discs can be done by both surgeons and interventionalists.

**Q: Why will these regenerative techniques gain traction?**

**HB:** There is a huge demand from patients that don’t want surgery. I also think as the procedural morbidity cost is decreased, patients’ ultimate expectations are decreased as well. Meaning that patients will be extremely satisfied even if the treatment helps partially or only for a limited period of time.

Patients want a cure. They have been stuck in the paradigm where the cure was surgery, even though good results are sometimes difficult to guarantee. Other solutions on the pain management side are not that great either. Patients are really stuck and looking for a better alternative. The industry will follow what the consumer demands. A great interest exists in non-surgical alternatives to treating back pain. Can we regenerate discs or try to maintain them if we can intervene earlier? Also will that lead to pain relief? These questions still have to be answered but the demand and need is great.

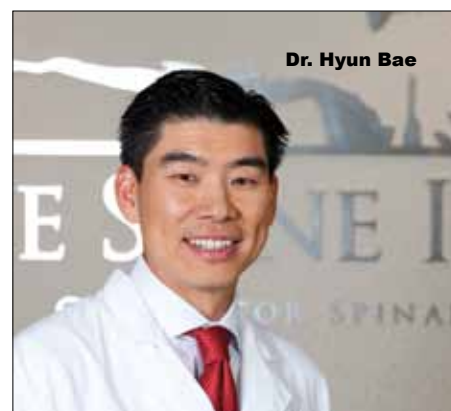
**Q: Will limited spine treatment reimbursements continue to plague the industry?**

**HB:** There is no question that reimbursements will continue to be a problem. All clinical trials are going to have to show efficacy to get reimbursement. However these treatments have the advantage of being less costly than spinal surgery. That also has to be balanced with the fact that since the procedure is relatively easy that overuse and abuse is going to be an issue. Also a population of patients exists that will pay cash for novel procedures that are alternatives to surgery especially if you can demonstrate some efficacy. Currently there is a thriving industry on delivering stem cell therapy on a cash basis with little or no demonstration of true efficacy.

**Q: Should we expect to see robotic surgeries become more common?**

**HB:** I think truly robotic spine surgery is not going to happen. Certainly centers may use some type of mechanized aid for surgery or image guidance. But as far as a true robot, it’s not going to become a must-have for spine center soon. We are nowhere close to the innovation that the da Vinci surgical system provides for urology. The technology may get there at some point, but I don’t see it in the near future.

**Q: How will the economy impact innovation?**



Dr. Hyun Bae

**HB:** We are going to see consolidation between implant companies. Most spine companies will go to a direct model to pay sales reps and keep profits. Maintaining high implant costs will be difficult as hospitals are hiring more surgeons. This in effect allows hospitals to dictate pricing and implant usage. The decreased margin and the Obama device tax will hurt the bottom line and mean less innovation, less educational grants and probably less company sponsored meetings. On the sales side, this means that salaries will be lower and possibly capped. It probably means that the quality of the sales representative and service will suffer.

**Q: Do you expect to see an increase in stem cell usage?**

**HB:** I think we will start seeing some stem cell technology in the operating room. Bone marrow aspirate filtration or centrifugation is already being done. With the scrutiny on BMP currently, viable alternatives are in great demand. I think stem cell technology is an attractive idea. However, the greatest barrier will again be the FDA. ■

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# Spine Device Companies Making an Impact

## 35 Spine Device Companies Making a Difference

By Carrie Pallardy

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**H**ere are 35 device companies focused nearly exclusively on spine surgery. Many of these device companies have had multiple patents, FDA clearances and market launches in the past year. Others have announced company expansions and clinical trials placing them at the forefront of spinal technology today.

**Accel Spine**, based in Dallas, is a medical device company serving the spine market. The company offers a range of products including cervical and thoracolumbar devices, a minimally invasive system, biologics and non-narcotic pain management device. The cervical products include an interbody fusion device, an anterior plate system and a posterior fixation system. The thoracolumbar products include an open fixation system and an interbody device. Accel Spine's Picasso is a minimally invasive system created to treat deformity and degenerative conditions of the lumbar and thoracic spine. Accel Spine received a total of eight FDA clearances last year.

**Alliance Spine**, based in San Antonio, is a company created from the collaboration of the academic world, spine surgeons and manufacturers. The company works to take a product idea from the research stage to the manufacturing stage and finally to the hands of surgeons. The company has an interbody line of products and a biologics product line. Alamo C, a cervical intervertebral body fusion device, is manufactured from PEEK Optima and is designed to create a large graft area allowing for optimal bone graft placement. The company's biologics include Cyclone, Osteo Strip and SwannShidi. Cyclone is a bone marrow concentrate system. Osteo Strip is a compressive graft material specifically designed for spinal fusions and orthopedic surgeries. SwannShidi is a vertebral bone marrow aspiration device. Alliance Spine is also working on developing a full line of PLIF and TLIF interbody devices and a cranial plate. In 2012, the company received FDA 510(k) approval for two interbody Alamo devices.

**Alphatec Spine**, headquartered in Carlsbad, Calif., is a medical device company that produces devices intended to treat spine disorders and improve the quality of patient life. The Alphatec Spine product portfolio has a wide range of devices including thoracolumbar, cervico-thoracic, interbody, minimally invasive and vertebral compression fracture treatments. The company also produces biologics and solutions for the aging

spine. The company recently received FDA 510(k) clearance for Pegasus, an anterior anchored cervical interbody device, and ILLICO FS Facet Fixation System, a minimally invasive device that eliminates the need for a pedicle screw and rod constructs during the immobilization of spinal segments. Alphatec Spine reported a nearly 7 percent increase in global revenue for the fourth quarter of 2012, as compared to the fourth quarter of 2011.

**Amedica**, based in Salt Lake City, is a medical device company that creates silicon nitride spinal and arthroplasty applications. Amedica is currently the only company with FDA clearance to create and market implants made from silicon nitride. The company's products include Valeo Interbody Fusion Devices, Facet Fixation, Preference 2 Pedicle Screw System and Origin Orthobiologics. Amedica expanded its executive team in January with the addition of legal, compliance, marketing and sales executives. In February, the company received a patent for a silicon nitride total disc implant to treat back and neck pain.

**Apollo Spine**, based in Newport Beach, Calif., is a company centered on serving the spine industry with solutions for scoliosis, trauma, degeneration and spondylolisthesis. The company's product portfolio includes the Eclipse-C Cervical Interbody Spacer, the Eclipse-L Lumbar Interbody Spacer, the Comet Cervical Plate and the Zenith Pedicle System. Apollo Spine designs the products to be minimally invasive, to improve current fusion treatments and to preserve motion. The company is currently working on developing its Venus Facet Screw and its Jupiter Modular Spacer System, which will serve as a treatment for patients suffering from deformity or degenerative conditions.

**Ascendx Spine**, based in Winter Park, Fla., is a medical device company focused on the development and marketing of VCF Repair Systems and the Acu-Cut Vertebral Augmentation System, both designed to treat vertebral compression fractures. A prospective, multicenter clinical study conducted on the results of the Ascendx VCF Repair System found patients to have considerable lessening of pain and improvement of function. Both the VCF Repair Systems and the Acu-Cut Vertebral Augmentation System have received FDA 510(k) clearance and the CE Mark.

**Back 2 Basics Spine**, based in Cleveland, is a medical device company that primarily focuses on providing

lumbar fusion with interbody devices in order to treat degenerative conditions of the spine. The company plans to submit its Dymaxeon spine system to the FDA for 510(k) clearance. The Dymaxeon spine system, comprised of a rod and screw with hooks designed to fit and support the spinal column, will be geared towards addressing not only degenerative spine conditions, but trauma and neuromuscular issues as well. Back 2 Basics Spine believes in creating an affordable high quality system for hospitals and surgeons.

**Captiva Spine**, based in Jupiter, Fla., is a medical device company that strives to place solutions for procedures in the hands of spine surgeons. Captiva Spine products include the CapLOXII spinal system, the FuseLOX lumbar cage, the Pivotec TLIF cage, the SmartLOX cervical plate system, the FuseLOX cervical cage and the TowerLOX spinal system. In 2011, the Pivotec TLIF device, a controlled pivotal delivery system, was awarded a patent and the CapLOXII spinal system received FDA 510(k) clearance. The TowerLOX spinal system, a cannulated pedicle screw system, received FDA clearance in 2012.

**Centinel Spine**, based in New York and West Chester, Pa., is a biomechanics company that works to translate surgeons' ideas into products that can be effectively used in the field of spine surgery. The company's products include the Stalif TT, the Stalif C and the Stalif Midline. Each product has undergone a biomechanical study to ascertain its efficacy. The biomechanical studies of the Stalif TT and the Stalif C found that each functioned well as a truly stand alone device. The Stalif Midline was designed to avoid posterior surgery, create stable fixation, and restore disc height and to be MRI compatible. The biomechanical study of the Stalif Midline compared its flexibility to that of Centinel Spine's Stalif TT and found the two devices to be on equal footing. Centinel Spine prides itself on basing its products on biomechanical principles, rather than ease of use alone.

**Choice Spine**, based in Knoxville, Tenn., is a spinal technology company that aims to work with orthopedic and spine surgeons to create the products they need. The company holds a number of patents and produces devices that are designed to treat six different spine conditions. Choice Spine's cervical spine products include the FALCON and the STEALTH Cervical Fusion Devices. The company also has two thoracolumbar products, a device designed to treat patients with scoliosis, an anterior spinal clip system and several lumbar products. One of the company's newest products is the STARFIRE Pedicle Screw System.

**Globus Medical** is an Audubon, Pa.-based spinal implant manufacturing company with minimally invasive, motion preservation, cervical intervertebral fusion, thoracolumbar and bio-

materials products. For the year 2012, the company's sales were \$386 million, up 16.4 percent from the previous year. Net income increased from \$60.8 million in 2011 to \$73.8 million in 2012, a 21.5 percent increase. Globus Medical is currently conducting several clinical trials. The company just completed a study of their TRIUMPH Lumbar Disc, a cobalt chrome alloy articulating disc intended for reconstruction of the spinal disc.

**Invio**, based in West Conshohocken, Pa., provides biomaterial solutions to the medical device market. The company offers biocompatible polymers including PEEK-OPTIMA polymer and compounds, MOTIS polymer, ENDOGLIN composite and PEEK-CLASSIX polymer. Invio biocompatible polymers have been used in devices such as the OSIMPLANT ARAMIS surgical disc prosthesis, Aesculap Enduro Rotational Knee System and Kelynim Global Custom Skull Implants. In 2009, Invio's PEEK-OPTIMA biomaterial received a Spine Technology Award for its innovation in the biomaterial field.

**K2M**, based in Leesburg, Va., is a medical device company concentrated on creating solutions for complex spinal treatments and procedures. The K2M product line includes solutions for spine deformity, trauma, tumors and degenerative lumbar conditions. The company also manufactures minimally invasive devices, cervical devices, interbody devices and biologics. K2M also offers platform technologies including MESA Technology, RANGE Complex Spine Technology, *tifix* Locking Technology and Rail 4D Technology. K2M has additional offices in the UK, Germany, Austria and Switzerland. In 2012, the company introduced their product portfolio to the Italian market.

**Lanx**, based in Broomfield, Colo., is a medical device company that aspires to work with spine surgeons to produce efficient products that better patient outcomes in fixation and fusion procedures. The company recently added the Timberline Lateral Fusion System, the Epic Anterior Thoracolumbar Plate, the Durango Stand-Alone ALIF System and the Concero Facet Screw System to its product line, which already contained biologics, several different systems and a number of different spacers. In 2012, Lanx was granted a patent for the minimally invasive ASPEN Fusion System and announced the results of a clinical study that found a 94 percent fusion rate with the ASPEN system.

**LDR**, based in Austin, Texas, is a company geared towards creating technology for spinal procedures. LDR's products include the ROI-C Cervical Cage, ROI-A ALIF Cage, ROI-A Oblique ALIF Cage and Avenue L Lateral Lumbar Cage. The products are designed for long term stability and easy insertion. Four LDR products have received FDA clearance within

the past two years. LDR has headquarters in France, South Korea and Brazil and a regional office in China.

**Life Spine**, a company based in Hoffman Estates, Ill., develops, manufactures and markets products that are intended for minimally invasive spine surgery. The Life Spine product portfolio includes anterior and posterior cervical, thoracolumbar and interbody products. The company recently announced the limited release of the CENTRIC Lateral Retractor System, which offers controlled blades and an open frame for optimal visual access during lateral approach spine surgery.

**Mazor Robotics**, based in Orlando, creates robotic guidance systems designed to aid in surgeons in performing spine surgery. The company's premier product is the Renaissance surgical system, which was developed for maximum precision and safety. Thus far, the Renaissance system has been used by surgeons to place over 15,000 implants. The system can be used in conjunction with spinal procedures including biopsies, pedicle screws, osteotomies, spinal deformity correction and a number of thoracolumbar approaches. Mazor Robotics also aims for the Renaissance system to be used in minimally invasive procedures, to lessen radiation exposure for patients and to produce consistent, optimal results. A clinical trial found the system to provide 98.3 percent accuracy in a study of 3,271 implants in 635 cases.

**NLT Spine** is a device company that works to provide the spine industry with non-linear spinal solutions. NLT Spine is headquartered in Israel and opened a U.S. office in Dedham, Mass., in January 2013. The company focuses on minimally invasive solutions and has a product portfolio of issued and patent-pending devices designed to treat degenerative spinal conditions. The PROW FUSION, designed for TLIF procedures, is designed to allow more bone graft volume within the implant than allowed by current devices. The PROW FUSION is the first clinical application of the company's non-linear technology platform that has been introduced to the U.S. The company plans to build on that platform and provide products that address several spine pathologies. NLT's discectomy system, eSPIN, is the company's most recent product to receive FDA 510(k) clearance.

**NuVasive**, based in San Diego, is a medical device company that develops minimally invasive spine products and procedures, including the eXtreme Lateral Interbody Fusion system, which opened the door to lateral approach spine surgery. The company's product line includes over 75 products. NuVasive offers lumbar products, thoracic products, cervical applications, neuromonitoring services and a line of biologics. NuVasive and the Society of Lateral Access Surgery are currently sponsoring a clinical trial

of the company's XL TDR device designed to treat degenerative disc disease. NuVasive has offices in Australia, Japan, Singapore, UK, Germany, Puerto Rico, Paramus and the United States.

**Pioneer Surgical Technology**, based in Marquette, Mich., was founded by Matthew Songer, MD, when he created the Songer Spinal Cable. Pioneer Surgical Technology now provides devices for the spine, orthopedic, cardiothoracic and biologics fields. The company currently offers cervical, thoracolumbar, lateral and specialty instruments to service the spine market. The company's NuNec Cervical Disc Arthroplasty reached 2,000 successful implantations last year. Pioneer Surgical Technology approaches all of their products from a vertical integration standpoint, aiming to take an idea from the design stage to the final stages of packaging.

**Precision Spine, Inc.** is a medical device company based in Parsippany, New Jersey, that is led by CEO James Pastena and President Richard Dickerson, both industry veterans. Through its wholly owned subsidiaries, Spinal USA, Inc., and Precision Medical, Inc., the company provides a broad range of implants, interbody devices, biologics, and spinal bracing products to hospitals, neurosurgeons, and orthopedic surgeons worldwide. Many of its specialized surgical systems address the unique challenges of cervical and thoracolumbar spine procedures. These include the ReForm Pedicle Screw System, which features an advanced design that was cleared by the FDA in August of 2012 for use in degenerative and deformity correction surgery, and the Mini-Max™ Spine System, which was cleared by the FDA in December 2012 for use in minimally invasive procedures. The company's research and development efforts have demonstrated a focus on next-generation products. Most recently, these efforts resulted in a partner-

ship with Stephen Cook, Ph.D., the Executive Director and Chief Scientist at the Fellowship of Orthopaedic Researchers in Metairie, Louisiana, to develop spinal implants that incorporate advanced magnetic technologies.

**SI-BONE**, based in San Jose, Calif., is a medical device company that began as an offshoot of INBONE Technologies, which produced the ENDO-FUSE Intra-Osseous Fusion System. SI-BONE focuses on providing minimally invasive solutions for the treatment of the sacroiliac joint. The company's iFuse Implant System is designed to provide an alternative to the traditional SI joint fixation and fusion treatments of degenerative sacroiliitis and sacroiliac joint disruption. The iFuse Implant System received FDA 510(k) clearance in 2011 after undergoing significant changes. In 2012, the company announced that 5,000 patients had been treated with the iFuse Implant System. SI-BONE is managed by a combination of executives from orthopedic and spine companies including INBONE, Medtronic and Kyphon.

**Spinal Elements**, headquartered in Carlsbad, Calif., designs and markets products for the spine industry. The company was founded in 2003 and received its first product clearances a year later for Lucent and Crystal. Lucent is a lumbar interbody system and Crystal is a PEEK cervical interbody system. Since then the company's product line has expanded to include the MOSAIC cervical implant system, SAPPHIRE anterior cervical plate system, LOTUS posterior cervical-thoracic fixation system and five lumbar systems in addition to LOTUS. The company has also opened a biologics product line with the HERO ALLOGRAFT. The net proceeds from HERO ALLOGRAFT sales are donated to charities that support children with life-threatening medical conditions.

**Spineart** has offices in Geneva, Switzerland, Irvine, Calif., and New York. The company develops and delivers fusion, motion and MIS implants to the spine industry. The company's motion implants include the Baguera Cervical Disc Prosthesis, the Baguera Lumbar Disc Prosthesis and the Yoda Dynamic Posterior Device. Spineart fusion products include the Juliet PLIF and ALIF Cages, Romeo 2 Posterior Osteosynthesis, Tryptik Cervical Modular Cage-Lift, Tryptik Cervical Cage, Tryptik Cervical Plate and Tryptik Cervical Laminoplasty Staple. The Spineart MIS devices include the Romeo 2 Posterior Axial Device, Romeo 2 Minimally Invasive System, Juliet Olif Cage and Juliet TLIF Cage. Spineart recently announced that 8,200 of its Baguera Cervical Disc Prostheses have been implanted worldwide.

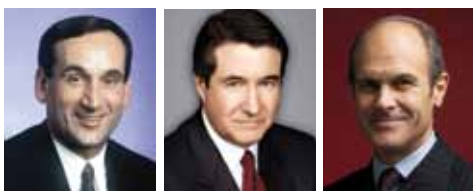
**SpineGuard**, headquartered in St. Mandé, France and San Francisco, focuses on its line of PediGuard products, which includes Classic PediGuard, Curved PediGuard and Cannulated PediGuard. PediGuard is a handheld, wireless pedicle probe designed to ensure safe pedicle screw placement. The device uses the electrical conductivity of tissue to warn surgeons of possible vertebral cortex perforations during pedicle screw placement. Various clinical trials conducted on the device have found 97 percent screw placement accuracy, 15 percent of time saved during screw placement and 25 to 30 percent reduction of patient exposure to radiation during pedicle screw placement. In July 2012, SpineGuard reported 20,000 spine procedures had been performed with the use of PediGuard.

**Spine Frontier**, headquartered in Beverly, Mass., is a medical device company that was created by spine surgeon Kingsley R. Chin, MD, and began with the launch of the FacetFuse screws. The company's Less Exposure Surgery product port-

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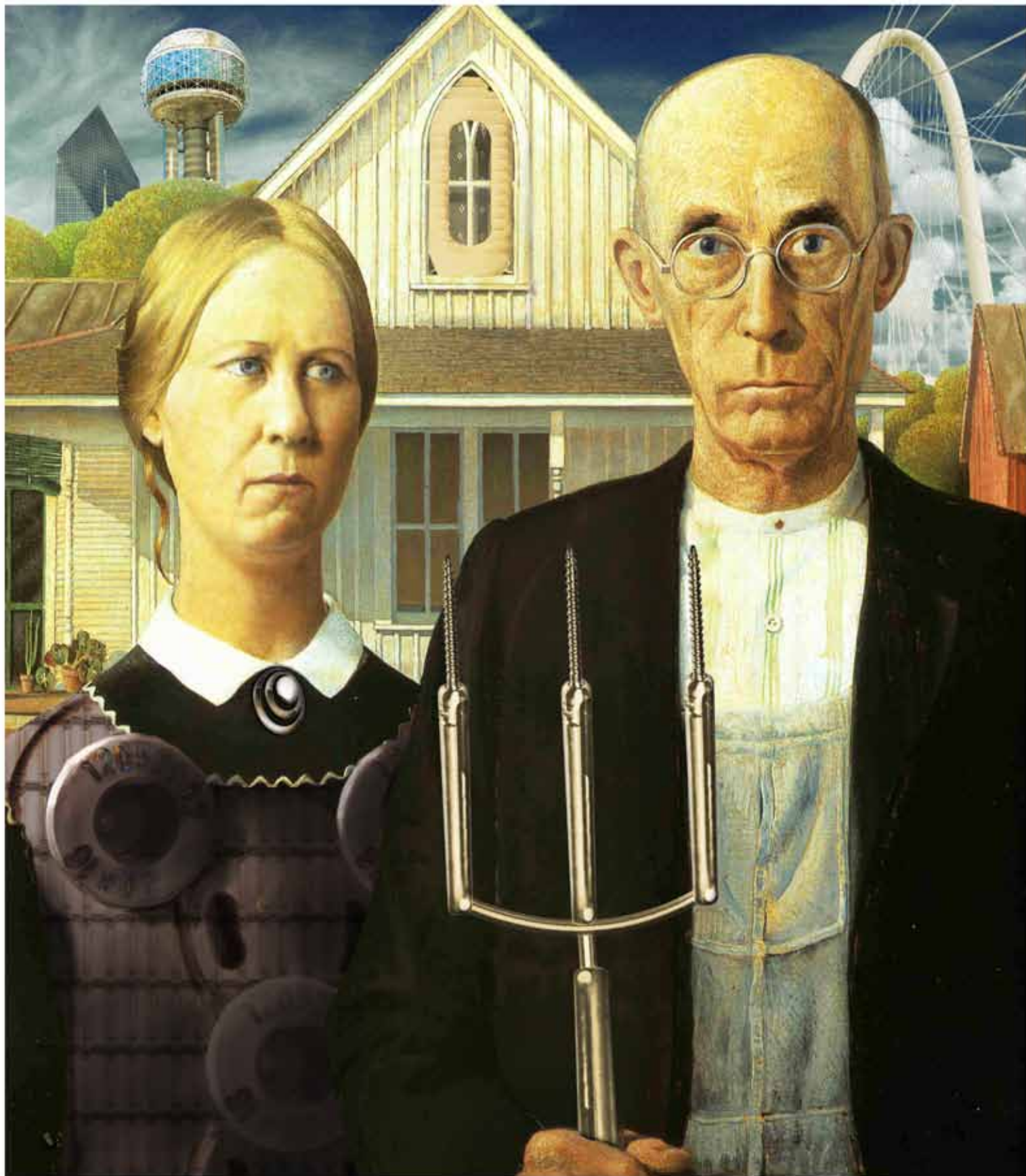
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folio includes the SpineFrontier Trio, Facet InFuse and Inspan. FacetFuse is a minimally invasive screw system designed for posterior surgical procedures including trauma and degenerative diseases. The Inspan Process Plate System is a posterior non-pedicle, supplemental system for the non-cervical spine. The S-Lift is designed for intervertebral fusion in patients with degenerative disc disease. All three systems are patented.

**Spineology**, based in St. Paul, Minn., was founded in 1996 by spine surgeon Stephen Kuslich, MD. The company focuses on providing the spine industry with products for minimally invasive procedures. Spineology's first product was OptiMesh, a deployable mesh pouch that is designed to maintain the position of bone graft material within a vertebral defect and allow surgeons to treat these defects percutaneously or with minimal invasion. Since OptiMesh, the company has added the Threshold Pedicular Fixation System, Rampart Interbody Fusion System, SOAR Retractor System, Prime Liquid Tissue Matrix, Armor Amniotic Wound Covering, CapLOX Spinal System, MTF G2 Allograft and Capture Facet Fixation System to its line of minimally invasive minded products.

**Spine Smith Partners**, based in Austin, Texas, brings together engineers and spine surgeons to design implants and biologics for the areas of spine correction, surgical fixation and tissue regeneration. The company has developed and marketed products such as the CYNCH TPLIF, CIMPLICITY and CEQUENCE-Plate. Last year Spine Smith Partners received a U.S. patent for the stand-alone ALIF device, VisuALIF. The company is currently in the process of developing, testing and introducing to regulatory agencies several new products including biologically enhanced implants, biologically active artificial discs, a soft tissue anchor and a facet fixation device.

**Spine Surgical Innovations**, based in Easton, Mass., is a minimally invasive spine device company. The company centers on its Holmed Swivel Port System and a full line of spine surgery instruments, which can be used in lumbar and cervical spine procedures. The company's product portfolio includes general instruments, distractors and compressors, pedicle instruments, rod instruments, torque instruments and several

MIS systems. In 2011, Spine Surgical Innovations launched the Hummingbird series, a series of minimally invasive surgery light tubes, which is designed to attach to the Swivel Port MIS Retractor and provide the best possible lighting without interfering with surgeons' movements.

**Spine View**, based in Fremont, Calif., is a medical device company that focuses on the development and commercialization of devices and systems intended to for use in spine surgery. The company's systems include the enSpire Surgical Discectomy System, the Flex MIS Surgical Discectomy System, the enSpire Interventional Discectomy System and the SpineView MIS Decompression System. Spine View technologies are designed for use in minimally invasive procedures and treat conditions such as spinal stenosis, degenerative disc disease and herniated discs.

**Spine Wave**, based in Shelton, Conn., is a medical device company concentrating on developing and marketing products in the spine field. The company offers the StaXx XD Expandable Device, StaXx XDL Expandable Device, Sniper Spine System, CapSure PS3 Spine System, Accent Cervical Spacer system and Ni-Lock Anterior Cervical Plate System to the U.S. market. The StaXx XD Expandable Device and the NuCore Injectable Nucleus are available outside of the U.S. In 2011, Spine Wave received FDA clearance for its StaXx XDL Expandable Device and launched its cervical product line. The StaXx Expandable Device is a vertebral body replacement device designed to minimize bone resection, nerve root retraction and soft tissue damage.

**TranS1**, headquartered in Raleigh, N.C., is a medical device company that directs its energy towards designing, developing and manufacturing device solutions for degenerative conditions of the lumbar spine. The company's product portfolio includes AxiaLIF PLUS expandable implants, a presacral access kit and discectomy tools. The company also offers biologics, the VECTRE facet fusion system and the VEO Lateral System. The company's AxiaLIF system recently received a Category 1 CPT code beginning in 2013. The company also recently acquired the medical device company Baxano, based in San Jose, Calif.

**Wenzel Spine**, based in Austin, Texas, is focused on providing the spine market with alternatives to traditional spine fusion techniques and devices. The company's key product is the VariLift L, which is a stand-alone FDA cleared device that once in position expands from a cylindrical shape to a wedge shape. The device is designed primarily for minimally invasive procedures. Last year, the company announced that 26,000 VariLift devices had been implanted across the world. Six clinical studies have been conducted to study the VariLift device and the most recent study found a fusion rate of over 90 percent.

**X-spine**, based in Miamisburg, Ohio, is a spine implant company driven to create intuitive, next-generation devices. The X-spine line of spinal devices includes the AXLE Interspinous Fusion System, FIXCET Facet Fixation System, Calix and Calix PC Intervertebral Fusion Systems, Buttrex Buttress Plating System, SPIDER Cervical Plating System, HGRAFT Spinal Allograft System and FORTX and X90 Pedicle Screw Systems. In November 2012, the company gained FDA clearance for its Fortex CoCr Rod System and the Certex Cervico-thoracic Fixation System. X-Spine has received FDA clearance for six of its products within the past two years.

**Zyga Technology**, based in Minneapolis, is a minimally invasive spine device development and marketing company. The SImmetry system and the GLYDER system are the company's chief products. The SImmetry is a sacroiliac joint fusion system. This system is designed to provide joint fixation, minimally invasive lateral access, bone graft delivery to the prepared joint and decortication and cartilage removal of the joint. Zyga Technology is currently developing the GLYDER, which is designed as a minimally invasive facet resurfacing system that will function as non-fusion therapy for painful facet joints. The GLYDER system is currently undergoing clinical investigation and has not yet been approved by the FDA. In 2012, Zyga Technology received \$25 million in Series C financing. Versant Partners, Split Rock Partners and MB Venture Partners are the company's largest investors. ■



AccelSPINE is a forward thinking medical device company that strives to develop products and services that treat spinal disorders. The AccelSPINE portfolio showcases a wide range of complementary products that include a minimally invasive spine system, posterior cervical system, thoracolumbar system, anterior cervical plate system, interbody device options, biologics and P-STIM a non-narcotic pain management solution.

Based on a creative collective, AccelSPINE works closely with our surgeons to imagine and construct multifaceted implants and instruments that become works of art. Join us as we share our story and learn more about how science, mathematics and the arts blend to masterfully create the AccelSPINE experience.



# Spine Technology Coverage Post Healthcare Reform: Q&A With Dr. Gunnar Andersson of Midwest Orthopaedics at Rush

By Laura Miller

**S**pine Surgery has rapidly advanced over the past few decades to include many new minimally invasive devices and procedures, revolutionizing the field. However, not all advances have been reimbursed by insurance companies, and device companies find continued challenges in bringing new ideas to the market.

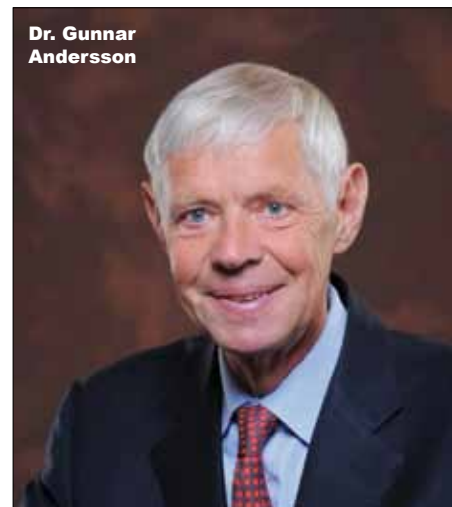
Gunnar Andersson, MD, chairman emeritus of the department of orthopedic surgery at Rush University Medical Center in Chicago, is a Board Member of the International Society for the Advancement of Spine Surgery and is vice chair of its patient advocacy group, International Advocates for Spine Patients. He discusses the primary issues facing new innovation to gain clearance from the Food and Drug Administration and reimbursement from insurance companies, post healthcare reform.

**Q: Where does the relationship between spine surgeons and the device industry stand today?**

**Dr. Gunnar Andersson:** The relationship between the industry and the physician community has been under considerable scrutiny in recent years. In fact, many of the companies have paid large penalties and accepted review from independent representatives of the government although they haven't agreed they did anything illegal. This happened widely in the joint industry, but the spine industry hasn't been spared.

I think all parties agree that relationships between surgeons and device companies are important because physicians are the ones who identify problems and weaknesses and oppor-

Dr. Gunnar Andersson



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tunities for improvement. Physicians also have unique knowledge about surgical techniques and instrumentation. On the other hand, the surgeons can't solve the problems alone; they need support from industry to develop ideas and produce new products and to advance new products through the regulatory process. We need each other, but we also need to manage conflicts of interest appropriately.

**Q: There are several new regulations from the FDA with healthcare reform. How has this process affected innovation?**

**GA:** It has generally become more difficult and expensive to obtain FDA approval. The bar has been raised. Further, FDA approval is no longer a guarantee for commercialization. It used to be that when products were approved by the Food and Drug Administration they were also reimbursed by the payer community; that is no longer the case. In many instances, not only do we have to provide sufficient information for the Food and Drug Administration to approve a new technology, but we also need to have additional scientific information about the efficacy of the product for third party payors to reimburse.

One stumbling block to reimbursement has been the ability for a company to get a CPT code that can be attached to the use of a new product. In some cases the AMA, which is in charge of the CPT process, has approached products in the Category III group, which is considered experimental and therefore often not reimbursed. To move from Category III to Category I you must collect additional information and convince the CPT committee a change is appropriate. It's a long and cumbersome road and we at ISASS want to do what we can to make the process as simple and fair as possible in the interest of our patients.

**Q: What will it take for device companies and surgeons to meet FDA approval and receive adequate reimbursement in the future?**

**GA:** The criteria to become FDA approved are different from the criteria to be reimbursed, but both require high quality clinical research. The FDA does not by statute require evidence of superiority (although sometimes they will want a trial to be a superiority trial), but they do require proof that a product is effective and that it is safe, meaning that probable benefits outweigh probable risk. The third party payor community on the other hand has comparative effectiveness and superiority requirements. This is a problem for industries who even though they have an FDA approved product cannot introduce the product to the market because it is not reimbursed.

If you are a small company it may not be possible to go back to your investors and ask for additional funding to run another study, and without the cash flow there is no other source of funding for a superiority trial, which may cost \$10 million to \$20 million. It is an unfortunate circle because there is no question that many existing products can be improved on and there are many new ideas, which never become reality because of the cost.

Game changing technology is even more difficult to introduce because it often raises the cost to third party payors who are reluctant to pay a premium for something that already can be accomplished with a less expensive solution.

There are some good examples, such as the lateral lumbar interbody fusion procedure, which was a game-changer and has received wide acceptance for reimbursement by the majority of payors. There are however, many examples of terrific ideas, which never made it to the patient.

**Q: How are insurance companies reacting to the increased costs for medical devices? What are their primary concerns?**

**GA:** There is no question that technology is a major cost driver in healthcare. Insurance companies are concerned with at least two things when looking at new technology: the increase in cost for management of a disease which is already managed by other methods and an increased use of a procedure in patients who actually marginally qualify. In both cases there is an increase in cost which needs to be justified in terms of benefit to the patient community they insure.

Insurance companies do technology assessments when new devices arrive on the market and they should. It's no secret that we are gradually getting to the point where we can't allow healthcare costs to grow further. At the same time new products have to be given an opportunity in the best of our patients.

I have my own ideas about how to address the problems discussed. FDA approval is an important step for a product because that's the method by which the product is determined to be reasonably safe and efficacious. Once FDA approved, the third party payors should give the product a chance, but at the same time industry cannot expect to charge a high premium for new technology that replaces existing technology until the new technology has documented its value, at which time the market will decide. These products should not be considered experimental and should receive a temporary code. If a new product is better or safer or easier to use than the existing alternative, it will be successful.

**Q: How is ISASS partnering with the industry to overcome reimbursement issues?**

**GA:** So we will argue that introducing a new product to the market at the same price as the technology you are replacing does not cover the cost of development, regulatory approvals, legal costs, intellectual property costs and marketing, but it allows the product to be tested. There are many products that aren't available in the U.S. because companies haven't been able to raise money to get them approved, while they are successfully used outside the U.S.

Additionally, some of the venture capital in the area has dried up because the investment community is looking at the U.S. market and concluding that if you cannot get a product to the market and reimbursed, it does not make any difference how good the idea is. According to some sources, taking a product to the European market is \$5 million to \$10 million while the cost to obtain FDA approval could be \$50 million to \$75 million.

**Q: What are your goals for proactively approaching coverage changes in the future?**

**GA:** We strongly believe in having an open dialogue with industry and listening to their concerns. We want to present the physician community's views on new technology and technological development. We want to aid in obtaining appropriate CPT codes and reimbursement for products our members consider essential to optimal patient care. We consider it important to create access to new technology so surgeons can determine for themselves whether they think it is beneficial or not once it has been appropriately approved by the FDA. I think we need to be realistic in our expectations; major changes will likely not occur in reimbursement, but we would like to work with all involved parties in developing reasonable standards of accepting new technology and help develop better guidelines than the ones that currently exist.

ISASS is a patient-centered organization. Our goal is to provide the best possible outcome for patients with spinal disorders. We strongly believe that current treatment can be improved on and that there is an important place for new developments and new technology. Pain relief and improved function should go hand in hand and results should be consistent and durable. Further, the surgical procedure should be safe and cause the least possible pain and suffering to our patients. We also strongly believe that our members should have access to the best possible tools to manage their patients. ■

## Minimally Invasive Spine Market Expected to Top \$2B by 2017

By Heather Linder

**T**he U.S. market for minimally invasive spine technologies is expected to grow to \$2 billion by 2017, according to the Millennium Research Group.

Much of the growth is expected from minimally invasive spine fusion, but the smaller facet fixation segment will also increase in revenue, according to the report.

Several minimally invasive spine fusion clinical trial outcomes may impact the market, as favorable results will likely boost the number of procedures done with minimally invasive technology.

Challenges still remain to the segment's growth, though. Physicians require extensive additional training to implement minimally invasive procedures, and reimbursements will remain low until more efficacy has been proven. ■

## Global Nonfusion Spine Market to Grow to \$1B by 2017

By Heather Linder

**T**he Millennium Research Group estimated the global spinal nonfusion market will reach more than \$1 billion by 2017.

Spinal nonfusion technologies are still reimbursed much lower — if at all — than spinal fusion technologies. This leaves surgeons unwilling to adopt them until more long-term clinical results have been obtained.

However, LDR Spine, Globus Medical and Pioneer Surgical will launch new nonfusion spinal technologies by 2017.

The United States, one of the most lucrative nonfusion markets, will grow robustly, nearly 19 percent annually, through 2017. ■

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# 8 Factors Impacting Spine Surgery Coverage Rates

By Laura Miller

**H**ere are eight significant factors making an impact on spine surgery coverage rates.

## 1. Documentation of conservative care.

Payors are demanding more documentation of conservative care today than in the past, and depending on spine surgeons to produce that documentation. Each insurance company has defined coverage policies for spinal surgery and many will deny care unless protocol is followed.

"We are seeing payors increasingly push for stronger documentation of conservative treatment plans prior to non-emergent surgery," says Danielle Koelbl, president of MedRev Solutions, a healthcare revenue cycle and receivable management company. "I suggest spine practices make sure their teams are reviewing top volume payor qualities to ensure they are following conservative care pathways. We don't want the payors dictating care, but it's important to know what conservative care treatment plans they require, what they deem standard of care and figure out whether that's in line with what your physicians perform and suggest."

Even after following protocol, insurance companies may still deny care. However, insurance companies may respond positively to data collection. Tracking outcomes and providing this information to top volume payors can help providers take control of their payment plans in the future.

## 2. Patients are paying more with high deductible plans.

High deductible insurance policies are becoming more popular and people are unwittingly saddled with huge medical bills after surgery. Payors may approve surgery for these high deductible plans, but a huge portion of the bill falls on patients' shoulders and providers must have a plan to collect from them.

"When the payment comes in, patients might be on the hook for 30 to 50 percent of the payment," says Ms. Koelbl. "That's a lot of money when you are working on the spine. I have been suggesting that physicians and hospitals flag high-deductible and co-insurance plans that have caps up to \$20,000 because they can be hurtful to the bottom line when you are working with spine. Have your access teams verify more than just eligibility; look at effective dates and deductible amounts, and discuss them with the patients."

Gathering this information beforehand will lead to better patient collections upfront and give physicians a better understanding of cost versus reimbursement before surgery.

"It's sad that the risk is being shifted to the patient and they have no idea that they have an enormous bill," says Kendra McKinley, president of Doctor's Billing, a medical billing and consulting company.

## 3. "Medical necessity" is being questioned.

Spine surgeons are finding more denials based on medical necessity than in the past; insurance companies claim a procedure isn't a medical necessity because the patient doesn't fit into their criteria for coverage.

"Getting insurance companies to understand medical necessity as an individual assessment is a challenge," says Ms. McKinley. "Spine surgeons need case studies and outcomes data to explain why the surgery is still critical."

Figure out what the guidelines are for insurance companies and develop a relationship with the medical director, as well as other executives, at those companies to broaden coverage in unique cases.

"What we are seeing now more and more is payors starting to reevaluate their policies on what they will and will not cover in spine," says Marcy Rogers, president and CEO of SpineMark, a developer of spine centers of excellence and spine research organizations. "Five to 10 years ago, there wasn't a single payor that had coverage rules about spinal fusions. Now, they all have strict guidelines."

Each payor has its own guidelines and spine surgeons must be familiar with the guidelines for each patient they cover; otherwise, surgery may be denied and they will have to go through the appeals process.

"It's really important to get the patients involved in the appeals process because at the end of the day, insurance companies respond more rapidly to patients being upset about their care than the physicians," says Ms. McKinley. "Be available to do the peer-to-peer reviews and don't take 'no' for an answer."

Form a relationship with insurance companies in your marketplace to position yourself for partnerships in the future. "Facilities and physicians have to maintain a regular scheduled payor education program and meet with payors voluntarily on a monthly basis to educate them on credentialing," says Ms. Rogers. "Show payors what is new about your practice and what separates you from other organizations. The key going forward will be to overcome the hammer spine surgery is facing with the perception of over-utilization."

Danielle Koelbl



Kendra McKinley



Marcy Rogers





#### 4. RAC audits are recouping reimbursement on some cases.

Medicare officials are now reevaluating old cases and retrospectively recouping reimbursement for surgery without the proper documentation of conservative care. Even though these procedures were performed and reimbursed in the past, CMS is looking for the documentation based on current standards.

"This is a really scary area because RAC auditors have gone through one or two years of cases and asked for recoupment on spine surgeries where documentation doesn't support their definition of medical necessity," says Ms. Koelbl. "You can try to combat them with physician queries. Make sure your teams have a comprehensive list of non-leading physician queries and use those during charge capture and billing as well as during retroactive denials or recoupment."

RAC auditors may or may not accept these queries, but at least you have the documentation available. This comes in handy because sometimes the patient documentation on conservative care wasn't sent to the surgeons in the first place.

"The worst part of the whole thing is they are sending the patient a note that their surgery wasn't medically necessary," says Ms. McKinley. "This is scary for the patient. I find the increased oversight frightening."

**5. Secondary procedures get a zero.** Commercial insurance companies often contract to reimburse spine surgeries with primary codes paid at 100 percent and secondary and tertiary procedures at 50 percent of the fee schedule rates. However, with new edits, some insurance companies bundle services and take a zero on the secondary procedure. This can be devastating for spine surgeons and practices.

"They set billing edits to bundle secondary procedures, so these managed care and commercial payors are using edits that contradict their contracts," says Ms. Koelbl. "Those secondary procedures are getting a zero because of the edits. It's something that's happening a lot. Providers have been told to appeal these cases and provide the contract language, but you have to develop a relationship with payors to really solve the problem."

Leverage this relationship with payors to get the edits removed because if you don't, you stand to lose a sizable amount of revenue.

"Insurance companies sometimes change their edits and it doesn't come up with the providers until they get a denial," says Ms. McKinley. "They reduce procedure codes with mass payment. They are reducing procedure codes that are exempt from the reductions. Having the specific contract language in the contract is so important. Spine surgery can be scheduled so far in advance that something could go out of coverage and providers aren't even aware."

Stay updated on payor contracts and coverage guidelines; otherwise you may find a previously covered service no longer covered when the denial comes.

"It's imperative that physicians and practices understand what their existing contracts say, their clauses and nuances," says Ms. Rogers. "They need to be on top of this and manage their contracts to understand what the implications are for their reimbursement. Look at each contract carefully and monitor every time a check or EOB comes in to make sure they match the negotiations."

**6. Missing authorization code.** One of the most common errors on spine claims is the lack of appropriate authorization code. The claims must include the physician and hospital authorization code.

"If the payors don't see that code on the bill, they will deny it," says Ms. Koelbl. "In one situation, we found over 100 authorized surgeries that didn't have a code on the UBO4 form, and the payor denied it for no authorization even though they had it. Providers have to keep the quality assurance measures in line because they cannot lose \$500,000 on an administrative error."

The insurance companies have a different authorization number for the hospital and the physician, and both must be on the claim. For outpatient surgery, the ASC's business office must be especially diligent about including this code.

"When the business office calls the insurance company for an outpatient spine surgery authorization code, the insurance company might say outpatient procedures don't need authorization, but spine surgery always needs an authorization," says Ms. McKinley.

**7. Lower reimbursement rates.** Insurance companies are offering lower rates than in the past for spinal procedures, which means surgeons must come to payor negotiations armed with more than just clinical documentation; they must also bring redacted payor data to show a rate increase is reasonable in their market.

"Present redacted payor data from other payors to compare their rates with other payors for high-volume procedures," says Ms. Koelbl. "If you are having coverage problems with a major player, show outcomes data along with other payor rates to help bring them on board."

Figure out where you can use positive reimbursement trends to correct negative ones. Physicians have assumed the responsibility for proving their case, and payors respond best to data.

**8. ACOs and bundled payments.** New payment models are appearing in several marketplaces, and spine surgeons must be prepared to take more risk in their clinical decision making.

"Physicians need to keep cost and revenue information so they can negotiate the appropriate rates," says Ms. Koelbl. "They don't want to negotiate rates that are too low. Accountable care organizations and bundled payments are coming, and surgeons need to make sure they are administratively sound." ■

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# 6 Factors for Positive Employee Culture at Spine Groups

By Laura Miller

**B**ryan Oh, MD, an orthopedic spine surgeon with BASIC Spine in Orange, Calif., discusses six key factors for building positive employee culture at spine practices.

**1. Screen employee candidates for positive attitudes.** Spine patients can be a challenging demographic to care for because many have suffered with chronic pain for long periods of time. The ideal staff member at spine practices is able to maintain a positive attitude and create a comforting culture for these patients.

"By the nature of the business, spine patients are challenging," says Dr. Oh. "The spine world is also very competitive, which can make a challenging environment even more stressful. I think the most important thing for spine groups is to screen new employee candidates on who has a good attitude."

The most successful employees will also be able to work as a team. They should be self-starters who can anticipate issues instead of reacting to problems. These qualities will strengthen the group's culture and create a more positive environment for patients.

"These employees can't just sit back and collect their paychecks," says Dr. Oh. "They need to work and be driven to help patients get better."

**2. Commit to team building.** Even though the best employees are self-starters, they also

must work well with others. Caring for a spine patient requires several specialists, and staff members must be able to communicate easily with other people.

"Employees at all levels should see themselves as a vital part of the spine center's success," says Dr. Oh. "They are part of a team, and if they think they are building something along with the surgeons, they are more likely to perform well."

Leaders of the group can either tell people they are part of an "important team" directly — but that may seem too paternalistic; instead, they can ask employees for their opinions on dealing with different issues or cases.

"Ask what they would do with a particular patient, or how they think the case should proceed," says Dr. Oh. "They are the people who see the patients from day to day, and they have a different perspective than the surgeon."

**3. Give employees a handbook and make sure they stick to it.** When new employees come on board, make sure they receive and read the employee handbook. They should also sign a form stating they understand the handbook and agree to comply with company rules.

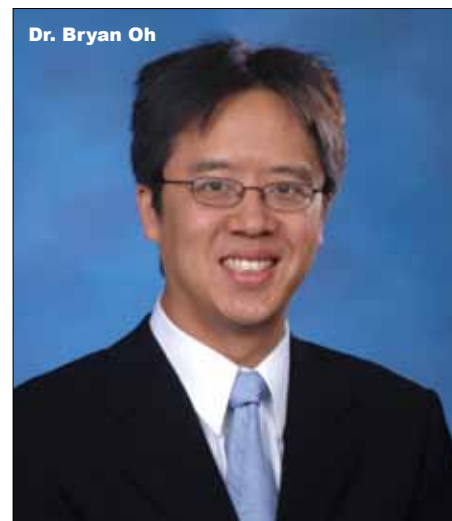
"The handbook lays down the ground rules for a successful employee," says Dr. Oh. "It establishes you are serious about this endeavor. Additionally, if they aren't performing up to standards in the future you can tell them how and show them in the handbook."

As employees move along with your practice, document any situations where they violate rules in the handbook and work with them to reverse any negative habits they have. If the employees still don't act appropriately, you may need to terminate their position.

"Make the case that they shouldn't be part of the company," says Dr. Oh. "This is critical in this day and age when the economy is still struggling and people don't want to lose their job. If you don't document, the employer on the back end could get in trouble."

**4. Hold regular employee meetings.** Gather all employees for weekly meetings to discuss upcoming issues, such as coding compliance or collections patterns. You can also take this time to reiterate employee expectations and build relationships within the team.

"These types of meetings hold people accountable and help you realize when there is a conflict brewing," says Dr. Oh. "Hopefully, the meetings



Dr. Bryan Oh

will allow you to address these issues sooner rather than later."

**5. Recognize outstanding employees.** Make sure to recognize good behavior and work ethic among your employees. The most outstanding employees might receive an extra bonus, but even everyday recognition and encouragement can make a big difference to employee morale.

"If someone has done a really good job, we will give them a snap bonus on the spot to recognize that this is a job well done," says Dr. Oh. "Other times we pull employees aside and thank them for their work. The personal recognition goes a long way."

Dr. Oh makes sure to tell employees how much he appreciates their efforts when they go above and beyond their expectations. "It might not have any monetary value, but a simple acknowledgment really makes people feel good," he says.

**6. Host events for employees.** Sometimes the everyday grind of the workplace can become monotonous, and employees might slip into a slump. Mix things up once in a while by hosting a happy hour or another team event for employees.

"Funding parties or happy hours are very important," says Dr. Oh. "We have a lavish Christmas party every year. Some people think these types of things are a big expense, but employees really appreciate them."

Beyond just hosting the parties, BASIC Spine goes a step further and closes the office early on those nights so employees have time to freshen up before the big event. "These details can be very important to employees and make a big difference," says Dr. Oh. ■

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# Lowering Hospital Readmissions: 4 Ideas for Spine Surgeons

By Nicola Hawkins, DNP, RN, RNFA, CEO of SpineSearch

**W**ithin our ever changing world of healthcare the need for spine surgeons to direct their focus on lowering the rates for hospital readmissions is on the rise. Hospital readmissions are more commonly being used to gauge standards of care and the Centers for Medicare and Medicaid Services is now utilizing readmissions rates to decrease reimbursements for specific care/procedures rendered.

In order to identify and understand methods that can be used to decrease hospital readmissions, it is important to recognize the difference between a planned and unplanned readmission. Planned readmissions are when you actually stage or reschedule a patient's procedure or they are a direct transfer (for example to a rehab facility).

Unplanned readmissions are a result of either a surgical or nonsurgical complications (commonly an infection). Unplanned readmissions are more likely to be influenced by change initiatives, therefore spine surgeons should direct their focus on decreasing the prevalence of unplanned hospital readmissions. It is known that many unplanned readmissions are unavoidable; as a significant number of readmissions occur within 30 days of a procedure due to an error that occurred during the patient's first visit/procedure.

Here are four tips to help you reduce your hospital readmissions rates today.

**1. Patient education.** The efficiency of your patient education plays a key role in the prevalence of hospital readmissions that occur post-surgery. Many complications that result in readmission can be avoided through clear and open communication for patient education. According to the Agency for Healthcare Research and Quality, patients who have a clear understanding of their after-hospital care instructions, including how to take their medications and when to make follow-up appointments, are 30 percent less likely to be readmitted or visit the emergency department than patients who lack this relevant information.

Patient education should be your top priority for reducing readmissions. Whether it is the surgeon or nurse's responsibility to sit down with the patient post-surgery to review their post-op plan of care, patient education is a must! Such education will help your patients identify what is normal to expect after their procedure, which will aide in stopping them from unnecessarily going to the emergency room if they see a small drop of blood at the site of their incision.

Patient education should begin at your first visit pre-procedure; the more informed your patient is about their procedure, needed medications and their healing process, the better! Remember that when it comes to ensuring comprehension of post-op education you need to have a clear understanding of your patient's literary intelligence, understanding of medical terminology and the English language. Knowing this about your patient will help you communicate more effectively, therefore they will be able to learn more effectively.

When patients are released from the hospital they should know exactly what medications and continued care is necessary for their recovery process. This can be achieved by sending your patients home with a customized list. This list should describe in easy-to-understand language the purpose of each medication and when it should be taken. You can also include a "red flag" trouble shooting list that identifies signs to watch for that may lead to a complication that requires follow up care.

## 2. Accessibility of office staff to triage.

Part of the patient education process includes providing your patients with a contact person and phone number to call in order to answer any post-op questions that arise. Having a clinical staff member and phone number dedicated for post-op patients will help to decrease the incidence of your patients going to the emergency room for follow up care. By providing your surgical patients with a "Post-Op Hotline" your clinical staff will be able to triage your patient's medical concerns. Clinical staff can speak with patients to get a better understanding of the complication or perceived complication that is occurring, and they will be better able to inform patients as to whether: A) this is a normal occurrence and to continue with their plan of care, B) they need to come into the office to be checked out by the physician, or C) if it is a true medical emergency where they need to go directly to the hospital for care.

## 3. Discharge planning/ home care services.

Before a patient is released from the hospital, a thorough discharge plan must be in place to ensure continuity of care in the home. At this time a clear understanding of your patient's home life/support system will be needed. You should obtain information on your patients' psychosocial needs and their support systems within the community (this will help you to identify patients who are at a "high risk" for readmission). For example, if patients need a dressing change or wound care performed on their back, do they



Nicola Hawkins,  
DNP, RN,  
RNFA

have a family member at home who can assist them as a caregiver? If so, then that caregiver should be involved with the post-operative educational training and discharge meetings. This will help to insure that follow up care is completed in a timely and accurate matter, which will help to decrease the incidence of infection and therefore the incidence of being readmitted to the hospital.

You may identify an instance where your patient does not have a caregiver to provide treatment, or perhaps the post-operative care needed is so extensive that home care services will be needed. Start by identifying the needed outpatient or home care services that will be needed for their care. Does your patient's insurance cover such services? Will your patient be able to afford the needed medication and home care services? If money is an issue, help your patients get assistance and check their care plan to see if any of their treatments can be altered for a more cost effective approach. This extra support will ensure that patients are receiving their needed care and will contribute to the goal of decreasing the incidence of hospital readmissions by limiting their need to go to the emergency room.

Communication with rehab facilities and home care organizations is pertinent. Be extra careful with the coordination of outpatient care and home care services. Utilize the help of case managers and discharge planners for outpatient care to ensure quality and standards of care will be met. Sometimes during the coordination of services medication lists go missing, post-surgical care instructions may be confusing or missing. Readmissions are more likely to occur when little or no communication exists between physicians during the time that a patient is switched from one facility to another.



**4. Close post-operative follow up/home care.** As well as having a "Post-Op Hotline" in place, you should also have a regular post-op follow up schedule in place. For example a nurse should be reaching out to patients within 24 hours of discharge to check in on how they are feeling. At this time they can also remind the patients about the "Post-Op

Hotline" in case any problems arise later on in their healing process.

In regards to follow up appointments, they should be scheduled before a patient is discharged. Reminder calls should always be made to patients with follow up appointments to further assure that they will show up for care. It is relevant to make sure that patients attend all

follow up appointments in order to prevent hospital readmissions due to complications. More intense follow up for your high risk patients may also be needed. This would include non-English speaking patients and those who are underinsured, who are the most likely populations to return to the hospital for care due to complications. ■

## 35 Spine-Driven ASCs to Know

By Laura Miller

**H**ere is a list of 35 ambulatory surgery centers that exclusively or primarily host spine surgery procedures.

**Baltimore Spine Center** includes minimally invasive treatment for outpatient spine and orthopedics.

**Carrillo Surgery Center** in Santa Barbara, Calif., was founded in 2005 by Alan Moelleken, MD, and includes two operating rooms and a 23-hour stay facility.

**The Christ Hospital Spine Surgery Center** in Cincinnati is a freestanding ASC, featuring 13 neurosurgeons and one pain management physician. It is a partnership between the Mayfield Clinic, The Christ Hospital and United Surgical Partners International.

**Christiana Spine Center** in Newark, Del., includes minimally invasive spinal procedures in their outpatient facility.

**Citrus Park Surgery Center** in Tampa, Fla., has two ORs that cover spine and orthopedic surgery as well as pain management and plastic surgery.

**Crane Creek Surgery Center** in Melbourne, Fla., was founded in 2008 by physicians from Osler Medical Group and Blue Chip took over management of the 14,000-square-foot center a year later.

**D.I.S.C. Sports and Spine Center** in Marina Del Rey, Calif., opened in 2007 and features seven spine surgeons and serves as the official medical provider for Red Bull North America.

**Doctor's Outpatient Surgical Center** in Beverly Hills, Calif., was founded by the physicians of Beverly Hills Spine Surgery in 2009, along with a pain management group.

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**Eastwind Surgical** in Westerville, Ohio, is a 10,350-square-foot facility opened in 2007 as a multispecialty surgery center including lumbar discectomy and decompression, lumbar fusion, anterior cervical discectomy and epidural steroid injections.

**Englewood (Colo.) Surgery Center** is located on Colorado Comprehensive Spine Institute's main campus and provides customized spine care.

**GNS Surgery Center** in Athens, Ga., is an 8,000-square-foot surgery center focused on providing spinal procedures and affiliated with Georgia Neurological Surgery, Georgia Comprehensive Spine and Blue Chip.

**Greensboro (N.C.) Specialty Surgical Center** added 11 neurosurgeons in 2011, which has contributed to substantial financial and volume growth for this multispecialty surgery center managed by Surgical Care Affiliates.

**Honolulu Spine Surgery Center** includes minimally invasive spine procedures, neurosurgery, interventional orthopedics and pain management.

**Institute for Minimally Invasive Surgery** in Dallas was opened in fall 2011 and was designed for surgeons to perform minimally invasive spine surgery and includes the O-arm Spine Surgical Imaging system with StealthStation Navigation.

**Laser Spine Institute** is headquartered in Tampa, Fla., and focuses on endoscopic spine surgery to treat a variety of spinal conditions, including spinal stenosis, degenerative disc disease, pinched nerves, bone spurs, bulging/herniated discs and sciatica.

**Loveland (Colo.) Surgery Center** was an early adopter of the level-three Prestige cervical disc replacement, the Coflex device, the multi-level Neo-Disc replacement and the Dynamic Stabilization System for a posterior lumbar fusion.

**Mayfield Spine Surgery Center** in Cincinnati was founded in 2005 as a free-standing ASC that provides spine, neurosurgery and pain management services.

**Memorial Spine & Neuroscience Center** in South Bend, Ind., offers minimally invasive spine surgery, peripheral nerve surgery and pain management procedures.

**Minimally Invasive Spine Institute Health Campus** in Dallas is a 48,000-square-foot center opened in April 2011 and includes endoscopic laser spine surgery.

**Neurological Institute Ambulatory Surgery Center** in Savannah, Ga., includes multiple operating rooms and a procedure room where surgeons perform minimally invasive procedures, artificial disc replacement and spinal fractures.

**NeuroSpine and Pain Surgery Center** in Ft. Wayne, Ind., is a joint venture between neurosurgeons and the physical medicine physicians of the NeuroSpine and Pain Center and Lutheran Hospital of Indiana.

**Orthopaedic and Neurological Center of Greenwich (Conn.)** includes four operating rooms where surgeons are able to perform minimally invasive spine procedures.

**Orthopaedic Surgery Center of La Jolla (Calif.)** is the orthopedic ASC of Surgery One and includes 10 spine surgeons.

**Parkway Surgery Center** in Hagerstown, Md., opened in August 2006. Parkway offers comprehensive spine treatments and non-invasive spine surgical procedures. Neurosurgeon John Caruso, MD, is a partner in the center.

**South Sound Brain and Spine** in Puyallup, Wash., is the outpatient surgical facility of South Sound Neurosurgery, led by Richard Wohms, MD.

**Southeastern Spine Institute Ambulatory Surgery Center** in Mount Pleasant, S.C., is South Carolina's only ASC dedicated specifically to spine health, designed by Don Johnson, MD, and Steve Poletti, MD.

**Spine & Sports Surgery Center** in Campbell, Calif., includes orthopedic and spine surgery, pain management and physiatry.

**Spine Centers of America** in Fair Lawn, N.J., was founded by Bryan J. Massoud, MD, who has performed more than 1,000 minimally invasive spine surgeries.

**The Spine Institute of Southern New Jersey** in Marlton, and includes lumbar discectomy, lumbar laminectomy, posterior lumbar interbody fusion and anterior lumbar interbody fusion.

**Spine Surgery Center of Eugene (Ore.)** was opened in 2007 by Glenn L. Keiper Jr., MD, founder of KeiperSpine, and several associates.

**Squaw Peak Surgical Facility** in Phoenix was founded by spine surgeon Anthony Yeung, MD, in 1998 to complement his practice, Desert Institute for Spine Care.

**St. Louis Spine Surgery Center** surgeons partnered with Blue Chip to establish their 6,700-square-foot facility in 2007, which was acquired by Meridian in February 2012.

**Surgery Center of Reno (Nev.)** is a multi-specialty ASC where surgeons perform minimally invasive surgery and spine surgeon James Lynch, MD, serves as chairman of the board of directors for the center.

**Two Rivers Surgical Center** in Eugene, Ore., opened in July 2006 and was specifically designed for outpatient spine procedures, using two ORs.

**West Park Surgery Center** in Cape Girardeau, Mo., was formed in association with the physicians from Brain & NeuroSpine Clinic of Missouri and Blue Chip Surgical Center Partners. ■

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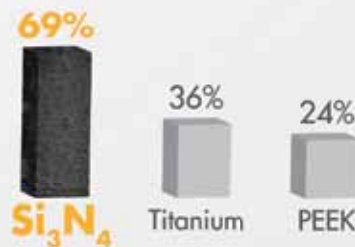
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