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BECKER'S
ORTHOPEDIC, SPINE & PAIN MANAGEMENT REVIEW

October 2012 • Vol. 2012 No. 4 *Business and Legal Issues for Orthopedics, Spine and Pain Management*

56 Sports Medicine Practices to Know

By Laura Miller and Heather Linder

Here are 56 sports medicine practices to know. Many of the practices selected for this list include team physicians for professional athletes and leaders within professional sports medicine organizations. The practice physicians are among the thought leaders in the field of sports medicine and on the forefront of research and development in the field. The practices are arranged in alphabetical order.

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12 Tactics for Spine Surgeons to Avoid Hospital Employment

By Laura Miller

Spine surgeons, along with all specialists, are increasingly becoming employed by hospitals for a variety of reasons: starting salary is higher, set working hours and the ability to focus on the clinic instead of worry about the business. However, hospital employment may do more harm than good for surgeons in the long run.

"If physicians become hospital employees, it's going to be a detriment to their income streams. When you are an employee, you are a commodity and you become replaceable," says Khawar Siddique, MD, a California spine surgeon with Beverly Hills Spine Surgery. "The way surgeons protect their patients, income and revenue streams is by making sure they are in charge, and that can only happen when they are in private practice."

continued on page 26

10 Trends in Reimbursement for Spinal Surgery

By Laura Miller

Here are 10 points discussing the challenges of spine surgery reimbursement today and where the trends are heading in the future.

1. Payor's coverage criteria and guidelines are changing. Payors are using a different set of guidelines for covering spine surgery; many are based on variations of the Milliman guidelines. Some surgeons argue that the Milliman guidelines are inappropriate because they are based on outdated studies and written by non-medical professionals. Regardless of the source, surgeons should know the payor's guidelines and have an understating of how they can ensure coverage in the future.

"You really need to have an understanding of the criteria for coverage so you know why they are sending denials," says Jeffrey A. Goldstein, MD, director of the spine service and associate director of the spine fellowship at NYU Langone Medical Center's Hospital for Joint Diseases. Dr. Goldstein is also a

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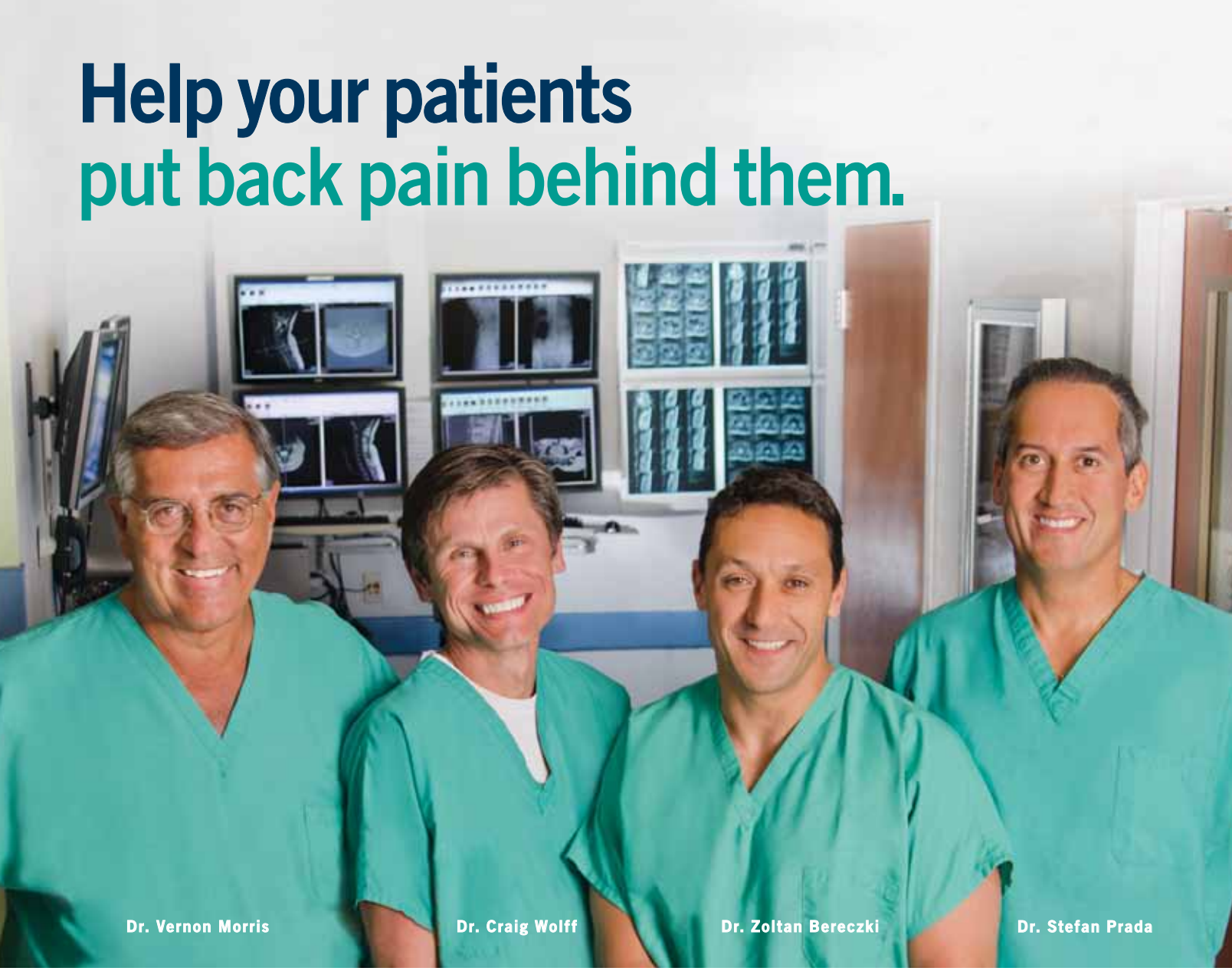

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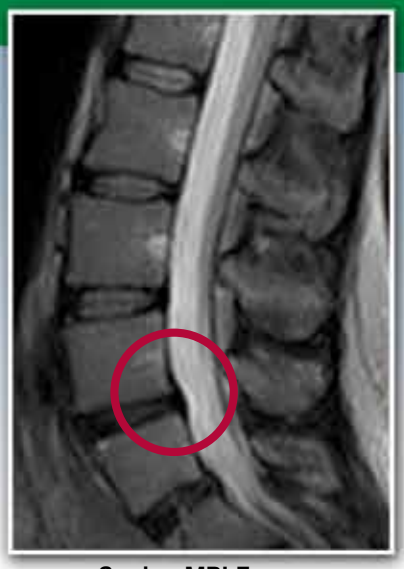

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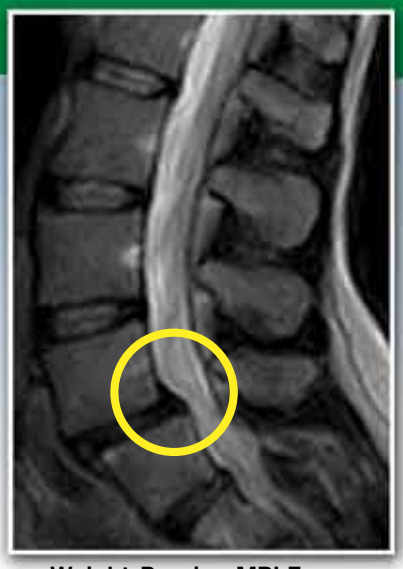

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Publisher's Letter

This issue covers topics such as spine surgery reimbursement, maintaining private practice and healthcare reform. It contains expertise from spine surgeons such as Edward Benzel, MD, of Cleveland Clinic; Jeffrey Goldstein, MD, of NYU Langone Medical Center's Hospital for Joint Diseases; Christopher Kauffman, MD, of the North American Spine Society Board of Directors; and Stephen Hochschuler, MD, of Texas Back Institute.

Please save the date for the 11th Annual Orthopedic, Spine & Pain Management-Driven ASC Conference on June 13-15, 2013, in Chicago. The conference will feature several sessions led by surgeons and industry CEOs covering key business and legal issues for orthopedic and spine surgeons. Key note speakers at the conference will include:

1. Mike Krzyzewski (Coach K), former basketball player and head coach at Duke University.
2. Brad Gilbert, former professional tennis player, TV tennis commentator, author and tennis coach.
3. Geoff Colvin, senior editor-at-large for *Fortune Magazine* and author of *Talent is Overrated.*
4. Forrest Sawyer, TV journalist and entrepreneur in innovative healthcare, founder of FreeFall Productions, an award-winning documentary production company.

Becker's Spine Review will extend in two key ways next year:

1. The E-weekly will expand to three times per week.
2. The print publication will be solely focused on spine and expand its distribution to include every neurosurgeon and orthopedic trained spine surgeon in the country.

Should you have any questions or comments, please contact myself at sbecker@beckershealthcare.com or editor-in-chief Laura Miller at lmiller@beckershealthcare.com or president and CEO Jessica Cole at jcole@beckershealthcare.com.

Very truly yours,

Scott Becker

8 Challenges for Spine Surgeons Over the Next 10 Years

Andrew Cordover, MD, a spine surgeon with Andrews Sports Medicine and Orthopaedic Center in Birmingham, Ala., and Anthony Rinella, MD, a spine surgeon with Illinois Spine & Scoliosis Center in Homer Glen and co-founder of SpineHope, discuss the biggest challenges for spine surgeons coming in the next decade.

1. Improving quality while lowering cost of care. In today's healthcare environment, emphasis is placed on providing high quality care for the lowest cost possible. Providers are incentivized to improve efficiencies and cut costs to lower the overall price for care as payors lower reimbursement rates and direct their members to providers with the highest quality reports.

"Spine surgeons have the challenges of improving quality, lowering cost and providing access to the older population," says Dr. Cordover. "There will be changing technology in the coming years and we have to implement it in our practice."

In some cases, payors have stopped covering previously approved procedures, citing a lack of data supporting its effectiveness. As a result, spine surgeons and researchers are engaging in high-level studies to show surgery's effectiveness among appropriately selected patients.

"It's important for me as a spine surgeon to stay involved with the continued development of outcomes measures that are appropriate for our specialty," says Dr. Cordover. "We also must have a voice in new technology because if it doesn't improve quality, limits will be placed on us due to cost cutting measures."

2. Fighting for coverage and better reimbursement rates. Spine has traditionally received high reimbursements and been considered an expensive procedure. As a result, payors are limiting their guidelines for coverage and providers must spend more time advocating for their patients.

"The approval process seems to be more arduous with each year of practice with regard to performing procedures," says Dr. Cordover. "My employees have to spend a disproportionate amount of time addressing coverage issues with insurance companies. Andrews Sports Medicine has had to hire additional employees to assist with these issues."

Insurance companies have successfully implemented these stricter guidelines to limit the number of expensive procedures they cover, and have a continued presence in Washington, D.C.

"Insurance companies often use the Milliman Care Guidelines to screen surgical requests," says Dr. Rinella. "While the effort to encourage evidence-based medicine is appropriate, the 'guidelines' are usually treated as hard rules. Insurers use gaps in the surgical literature to undermine the spinal community's standards of care, and justify their efforts with the Milliman Guidelines. Furthermore, insurance representatives hired for peer-to-peer reviews often lack the training to understand surgical subtleties, and this compounds inefficiencies in the process."

For the cases that are approved, reimbursement rates have dropped and in some cases declining reimbursements have forced private practices to sell to the hospital. "It's a challenge for us as well as everyone in the industry," says Dr. Cordover. "We need to practice more efficiently than ever. I am concerned that there are going to be some practitioners that will find it a challenge to survive over the next decade."

3. Providing access to care for the older population. As baby boomers age, spine surgeons are seeing an influx of patients with back pain. Caring for these patients has become even harder as the number of young surgeons hasn't kept up with the number of surgeons retiring, and Medicare continues to lower reimbursement rates.

"There is a challenge we'll need to define with the aging population because as technology advances, we are able to treat them, but they may not have access to care or the ability to pay for their care," says Dr. Cordover. "With more educated patients, the demands on the system are going to reach new heights. New technologies and the cost of research and development will add additional strains. We are going to have to make some tough decisions with regard to how many resources we want to put into healthcare as a country."

4. Figuring out where spine surgeons fit into new payment models. Spine surgeons and specialists around the country are concerned about how they will fit into new payment models, such as bundled payments or accountable care organizations. This will be a special challenge for private practice spine surgeons who provide care at multiple hospitals across several health systems.

"The spinal community continues to develop patient outcome measurement tools to objectively track our treatment strategies," says Dr. Rinella. "We are always looking to improve evidence-based analysis and recommendations in spinal surgery."


Dr. Andrew Cordover


Dr. Anthony Rinella

Andrew's Sports Medicine and Orthopaedic Center has partnered with a local hospital and is in the process of exploring ACO options.

"Over the next few years, we'll be developing quality outcomes measures as part of an ACO," says Dr. Cordover. "In the spine realm, I think it will be more challenging than other specialties to produce the outcomes measures because it's certainly not as clear cut as measuring survival rates for cancer or heart disease. There are some new instruments out there now and we are always looking to develop and improve upon the tools that we have to develop evidence based medicine in spine surgery."

5. Keeping surgeons in the national discussion about the future of healthcare. Regardless of what happens in the 2012 presidential elections, the healthcare delivery system will undergo a major overhaul over the next several years and spine surgeons must remain part of the discussion.

"Most healthcare decisions still take place in the medical doctor's office, especially in an expanded preventative care model," says Dr. Rinella. "We have to keep doctors in the discussion. Doctors are by definition a heterogeneous group, and we do not have adequate representation. We need to remember that the pharmaceutical, hospital and insurance lobbies are well represented, but only the doctors are making the true healthcare decisions on a daily basis at the patient level."

Spine surgeons must speak to their legislators to promote access to care. Surgeons can also become active in the advocacy branch of their local and national medical societies.

6. Dealing with Medicaid expansions and retractions. In June, the Supreme Court upheld the Patient Protection and Affordable Care Act, but struck down its Medicaid expansion in favor of allowing each state to provide Medicaid individually. For some states, this will still mean including more people in Medicaid while others will lead to fewer enrollees. Either way, surgeons who provide care for Medicaid patients receive very little reimbursement.

"In Illinois, the problem is that Medicaid pays a third of Medicare rates, and often takes 180 days to send payment," says Dr. Rinella. "No industry can survive receiving 10 percent of billed charges six months after a service is provided. There is also a disproportionate payment model between professional and hospital services. The hospitals are reimbursed at a much higher rate than the physicians. If the physician and hospital rates were adjusted in parallel, it would lead to a more synchronistic system."

Medicaid reimbursement is disproportionately low compared to other healthcare insurance networks, which receive additional pressure to keep rates high enough so physicians can keep their doors open.

"Raising Medicaid to Medicare reimbursement rates would make Medicaid expansion more viable," says Dr. Rinella. "When the government pays hospitals very well for Medicaid services and pays surgeons very poorly, the hospital endorsement of Medicaid expansion creates a financial disaster for physicians. If we balance the physician and hospital payment formulas at a reasonable level, and adjust each side of the equation equally over time, we could align our interests and balance the overall federal healthcare initiative."

7. Overcoming regulatory hurdles limiting practice growth. Private practice physicians today face several uncertainties about their survival, including regulatory confusion over how they will be able to partner with other providers or take advantage of ancillary services in the future.

"Spine surgeons do not know if we will be able to own an MRI scanner, or what types of relationships with ancillaries or instrumentation companies will be allowed in the future," says Dr. Rinella. "There needs to be a clarification of the rules, because concerns over retrospective governmental punishments severely limit our growth and efficiency programs. We are told in general economic models that competition drives down prices. However, in healthcare, competition between physicians and hospitals is being discouraged — and often destroyed — in an effort to benefit hospitals and other special interests."

Many private practice groups have weathered the economic storm over the past few years by merging with other groups in the community or adding ancillary services, such as imaging, physical therapy or ambulatory surgery centers, to their practice. However, depending on the state, practices may be facing Stark law issues with some of their relationships, and the federal government has already capped physician ownership of specialty hospitals.

8. Surviving healthcare reform. Without knowing exactly how the November elections will turn out, it's difficult to predict where healthcare is headed in the future. However, the ability to run a successful practice and prosper as a surgeon will be very important going forward.

"Some legislators have discussed repealing ObamaCare, but I think most people would agree that many of the components are strong steps forward, and can only be instituted at the federal level," says Dr. Rinella. "I do not see many proponents of annual or lifetime benefit limits, replacing pre-existing condition clauses, or repealing extension of dependent child benefits."

However, PPACA failed to address tort reform for surgeons and some states have refused to create health insurance exchanges, which the legislation is predicated on. Surgeons are spending more money to implement electronic medical records — 81 percent of respondents to a Medscape survey said they currently use one or are in the process of implementing one — but 26 percent say productivity decreased as a result and 30 percent reported EHR had a negative impact on their practice.

"The PPACA, though flawed, was a tremendous political accomplishment, but there are several things that need to be amended or clarified," says Dr. Rinella. "We do not know how employer insurance mandates will affect physician offices, how preventative medicine dollars will be spent, or how the state insurance models will work." ■

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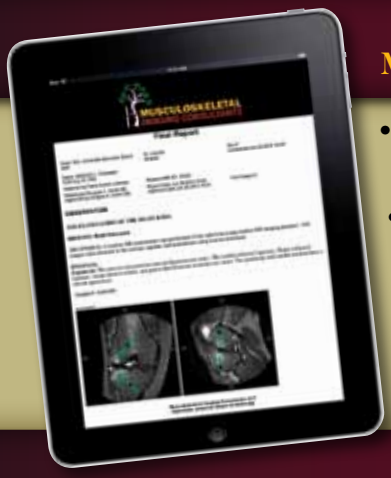

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7 Trends Impacting the Future of Spinal Surgery

By Laura Miller

Here are seven trends making a huge impact on the future of spine surgery.

1. Transition to minimally invasive surgery gaining ground. While minimally invasive techniques for spine surgery have been around for more than a decade, they are only now gaining traction among surgeons and patients across the country. More patients are demanding these less invasive techniques, and for some techniques outcomes data shows better short term and positive long term results. These factors are driving more surgeons to learn minimally invasive surgery during their fellowships or take time out of their practice to train in the technique.

"More surgeons are performing minimally invasive spine surgery and it's becoming more of the standard than it has been in the past," says Joseph M. Zavatsky, MD, section chief of orthopedic spine at Ochsner Medical Center in New Orleans. "I think the old guard is starting to see the benefits of minimally invasive surgery as more data is being published in the peer reviewed literature."

In the past, some surgeons have been reluctant to support minimally invasive procedures, but as clinical outcomes are proving the same or better the focus has shifted to the cost and quality benefits. Minimally invasive procedures have been shown to decrease hospital stays by anywhere from one to three days, decrease operating time and blood loss.

"If you aren't doing minimally invasive surgery today, your practice may suffer," says Dr. Zavatsky. "Patients are much more informed and they are coming into doctor's offices asking for it specifically. It's definitely coming of age and as we get more and more data about the safety, effectiveness and benefits of the these procedures and more surgeons gain more experience with these techniques, patients will ultimately benefit."

However, not all techniques described as "minimally invasive" have been proven in the literature, and not all conditions can be treated in a less invasive procedure. "I think it's important to ensure that minimally invasive spine surgery doesn't mean less effective surgery," says Sanjay K. Khurana, MD, an orthopedic spine surgeon at DISC Sports and Spine Center in Marina del Rey, Calif. "It still means maximally effective spine surgery and the goals of an effective spine surgery are accomplished."

2. Lateral technique shows a lot of promise. While it's still relatively new to the spine world, the lateral approach to surgery has shown a great deal of promise in treating several spinal conditions. "The reason it has become so transformative has been because it's truly taking a procedure that has required hospitalization to one we can routinely do in an outpatient environment," says Dr. Khurana. "It has been even more effective than existing procedures for achieving lumbar fusion."

Even though surgeons go through a small incision for the lateral approach, they are able to put in a larger cage than with other minimally invasive approaches. The lateral incision also allows surgeons to avoid disrupting the patient's back muscles, which makes the procedure generally less painful for patients.

"Unlike traditional surgery, where collateral damage from spine surgery can be worse than the condition itself, the lateral approach allows the benefits of fusion to be realized less invasively, more effectively, and efficiently," says Dr. Khurana. "This approach positions the graft, which his much larger, but without the musculature disruption of the traditional approach."

3. More powerful microscopes continually enhance visualization. More powerful microscopes are continuously being developed to give surgeons a better view of the surgical site with minimal disruption of the patient's anatomy. Coupled with the lateral procedure, these microscopes can make a big impact on the surgical experience.

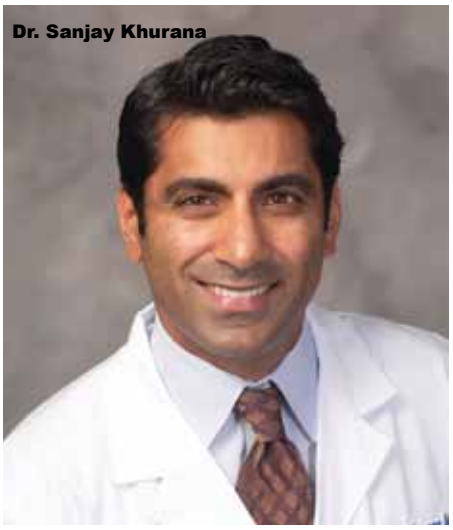
"Enhanced by microscopic visualization that allows for more predictable placement of the graft, we can demonstrate that the lateral approach is highly effective and that will likely gather momentum in the future," says Dr. Khurana. "I think the microscopic enhanced lateral psoas approach is going to be a game changer in our practice. It's effective for patients because it doesn't require any division of muscles around the spine."

Like minimally invasive surgical approaches, learning to use these microscopes does take time and effort, but can easily be incorporated into a practice. "Microscopic lateral approach is readily teachable, reproduced and should be part of the spine surgeon's armamentarium," says Dr. Khurana.

4. Less invasive surgeries for deformity correction. The minimally invasive approach has moved past the more simple spinal procedures and now even spinal deformity corrections have less invasive options than in the past.

"Utilizing minimally invasive techniques for deformity correction may allow you to offer patients options other than the standard open posterior deformity correction and fusion procedures which are often associated with increased blood loss," says


Dr. Joseph Zavatsky


Dr. Sanjay Khurana

Dr. Zavatsky. "The risk of the increased blood loss may often prevent surgeons from offering large deformity procedures to patients, especially high-risk patients with medical comorbidities. But minimally invasive techniques can be utilized in these complex deformity patients providing an alternative way to address their pathology that is safer and more well tolerated. We can provide a safer solution to patient's complex spinal problems in an attempt to make their quality of life better."

There is a learning curve to the minimally invasive procedures for deformity correction that initially makes operating time longer, but in the long run it will make a difference on in your practice

"There is a steep learning curve when it comes to utilizing minimally invasive procedures to correct complex spinal deformity pathology and can initially make operating room times longer, but in the long run it can make a significant difference in patient care and ultimately in your practice," says Dr. Zavatsky. "If indicated, I always try and use these minimally invasive techniques because of these benefits. The learning curve is steep, but after you do several cases and become more comfortable and efficient with these techniques, I feel it's a game changer."

5. More surgeons enrolling in minimally invasive cadaver labs. There are several new minimally invasive techniques brought forth by different companies and spine surgeons are able to compare them side by side at cadaver labs during events such as the Society for Minimally Invasive Spine Surgery annual meeting.

"The SMISS meeting is a great opportunity for spine surgeons to get their feet wet and get exposed to these procedures and the supporting literature that's out there," says Dr. Zavatsky. "Surgeons can interact with nationally and internationally respected spine surgeons and ask questions about how to approach different problems and avoid complications. It's a great forum for surgeons to interact and learn."

Surgeons can also shadow experienced spine surgeons to watch the procedures in action and learn how to use new equipment for the technique.

"Some surgeons are very open to allowing you to come into their OR and watch these surgeries," says Dr. Zavatsky. "My operating room is always open to visiting surgeons and I truly enjoy sharing my experiences with MIS. But you also need the experience of the cadaver lab because minimally invasive procedures are a totally different animal when compared to traditional open surgery. You have to visualize things three-dimensionally and spatially know where you are. Cadaver courses and visiting an experienced surgeon's OR are two great ways to become more comfortable with this procedure and technology."

6. Motion preservation with disc arthroplasty preformed in outpatient settings. Surgeons and device companies have had developed cervical disc arthroplasty procedures as an alternative to spinal fusion and proven their effectiveness, but insurance companies are still hesitant to reimburse for these surgeries.

"Motion preservation and disc arthroplasty are areas that show promise for the future," says Dr. Khurana. "I have found that cervical arthroplasty is more predictable and has less of a downside than lumbar disc replacement. We can do some procedures in the outpatient surgery center that were traditionally done in the hospital."

Artificial discs continue to advance and companies are producing new innovations in this area, but insurance company coverage and approval remains an issue in this area.

7. Biologics and stem cells will have a place in the future. Biologic solutions are intriguing for spine surgery, but in most cases they are still in the developmental and experimental stage of utilization. Bone morphogenic proteins have been used to enhance fusion, but recent controversy about adverse events have prompted several surgeons to refine how they use BMPs.

"My personal practice is not to use BMP as much as I had in the past and reserving it only for high risk cases," says Dr. Khurana. "Instead, I think biologics, including mesenchymal rich solutions — like OsteoCell or Trinity used with the iliac crest — will prevail."

In the distant future, stem cells stand to play a big role in spinal care. "I think the final frontier is related more to stem cells than any other technique," says Dr. Khurana. "Right now, there isn't very good scientific knowledge to suggest stem cells are superior to traditional techniques, but I think they will have a role to play in the future."

However, this future is still a far way off and we should expect fusions to remain popular. "Fusion still plays a very important role and will continue to play an important role for years to come, until we can develop ways to biologically treat disc degeneration and instability, fusion will remain a mainstay of treatment," says Dr. Khurana. "For the next decade, optimizing lumbar fusion with a minimal downside and risk, and maximizing the upside of recovery and return to activity, are the key things people should focus on." ■

5 Big Changes in Coverage Policies Devastating Spine Surgery

By Laura Miller

Surgeons have been seeing sudden and unannounced coverage changes for common spinal procedures over the past year, leading to denied claims and a loss of revenue and resources. The strategies used by many insurance companies to rein in costs have had a significant impact on spine practices and patient care.

"The industry has realized that the cost of spine surgery is too high to continue down the old path," says Barbara Cataletto, MBA, CPC, CEO of Business Dynamics. "The industry is manipulating CPT and coding regulations and reducing reimbursement in several different ways."

Here, Ms. Cataletto discusses how these coding and reimbursement changes are impacting spine surgeons and practices around the country, and what spine surgeons can do to fight back.

1. CPT has bundled several codes that were separately billable. These new CPT regulations are now bundling codes with high level of service reimbursement under one code such as the interbody and lateral fusion codes as well as the removal of old instrumentation and insertion of new instrumentation in revision surgeries. CPT has bundled the reimbursement for these procedures and the bundling is not realized until the practice receives the payments.

"Many of these changes were unannounced, such as the bundled instrumentation with revision surgeries, which has really hit surgeons hard considering it takes time for the removal of instrumentation in the revision procedure; the surgeon won't be paid separate if it is performed with the insertion of the new construct," says Ms. Cataletto. "That is frustrating and unfair for surgeons doing this type of work, and most practices weren't aware of this important change until they received a denial."

Surgeons are also seeing insurance companies bundle codes that were previously billed separately, such as the use of bone marrow aspirates with other procedures. Insurance companies have begun denying entire claims where bone marrow aspirates were billed separately; this action has been devastating for spine practices, many of whom were unaware of the change.

"I would like to see the industry have more disclosure," says Ms. Cataletto. "I don't see the current trend improving until there is true transparency and the industry at large has a chance to counter specific changes to CPT or reimbursement prior to its enactment. There are no increases in RVUs for these new coverage updates, so surgeons are doing more work and taking on more risk for less reimbursement."

2. Denial for previously covered treatment. Surgeons and spine practices have begun to receive coverage denials for procedures and practices that were previously covered by insurance companies. One big example has been biomaterials, such as the new bio grafting materials which are now classified as non-covered services, even though they have been recognized and covered in the past.

"It's not the entire procedure, it's just the biomaterials that were being denied in most cases," says Ms. Cataletto. "They were covered in applications for several years, but now they are considered experimental, therefore, not covered. This doesn't make sense because bone marrow aspirates had minimal physician reimbursements — $100 or so — now if you include it in your surgical case, insurance companies won't approve reimbursement for the entire case. This is unusual and I haven't seen anything like this in the past."

While insurance companies may have a history of denying single part coverage for an entire procedure that was previously covered, denying an entire case when a non-covered procedure is involved is unprecedented. This trend has been especially disconcerting for surgeons and patients since insurance companies are denying treatment and procedures that are cleared by the FDA.

"This is a newer problem over the past few months," says Ms. Cataletto. "The transparency in the decision making isn't there so no one knows where this is coming from. Surgeons can't respond and patients don't know this is happening, and they play no part in the process of any debate with regard to insurance coverage. Patients who want the best treatments that are FDA approved aren't allowed to participate because carriers don't believe the patient's input is warranted."

Local and national medical societies are taking on some of the coverage challenges and denials spine surgeons are seeing on a more universal level. Surgeons who are interested in making an impact on coverage decisions and policies in the future can become involved with these societies and their advocacy efforts.

"The local societies have an obligation to listen to what is happening in their area, but only if the surgeons openly discuss the common issues," says Ms. Cataletto. "Attend a local meeting and make the issues personal, so it will stir up the local community of physicians. Many of the national societies have open lines with the industry, surgeons, implant companies and patient advocates for the appropriate approvals process."


Barbara Cataletto

3. Preauthorization is a more rigorous process than in the past. The preauthorization process has become much more rigorous over the past few years, taking surgeons away from their patients to debate clinical guidelines and treatment decisions. This has become especially prominent in spinal fusion cases, where sometimes even providing the essential information about failed conservative treatment leads to a peer-to-peer review.

"In the past, surgeons could have their office staff discuss coverage issues with the insurance companies; now they are asking questions only the surgeons are able to answer and extending the reviews beyond staff," says Ms. Cataletto. "The surgeon has little choice but to comply and by doing so, it encumbers their ability to work with patients."

The additional time on the phone with insurance company costs surgeons both in their patient relationships — less time spent with patients in order to take these phone calls—as well as financially, since they aren't reimbursed for time spent on the phone.

"You have to go through three or four levels of appeals and sometimes even then only part of the case is approved or a full denial is rendered," says Ms. Cataletto. "If the coverage isn't approved, patients may be forced to pay for the surgery themselves or figure out the next available treatment option. The patients and physicians are left in a dilemma of a situation as to the next steps should

the carrier disagree with the treatment. Even if the patient has coverage, it doesn't mean the carrier will cover the surgical care and this has a significant impact on everyone."

When advocating for additional coverage, surgeons must frame their position so it focuses on providing the care patients deserve and not merely on reimbursement levels.

"We have to change our focus from the reimbursement position to a patient care and coverage position for society at large to take us seriously about our motivations," says Ms. Cataletto. "If we put patients first, everything else will follow. If patients are involved with advocating for their coverage, there is a team approach to tackling these issues. Both patient and surgeon involvement in responding to denials is critical. At the end of the day, it's all about the patient."

Providers can go to the state insurance board to discuss the impact these changes are having on their practice. "Extend complaints to the state insurance boards," says Ms. Cataletto. "That's another key avenue that they can explore in order to have their voices heard as to how these decisions are impacting patient care."

4. Appeals processes are taken to the highest level more often. Surgeons seeking to appeal an initial denial of coverage decision are jumping through more hoops than ever before. They have become steadfast in their efforts to tackle several levels of appeals, and some practices have hired additional staff members just to manage appeals with insurance companies.

"The appeals process is much more difficult than it was in the past," says Ms. Cataletto. "To win, you need to go to the highest level of the appeals process and that's extremely costly. Most practices don't have what they need in manpower to even reach that level. Even if they have a large collections staff, they might not have staff members who are qualified at the highest levels."

Regulations on fighting denials have also changed to make the appeals process tighter. This is forcing some spine surgeons to sell their small or independent practices to a hospital, while others choose to merge or join larger physician groups.

"It seems like the whole spine industry is in a whirlwind as to who is going to win: Is it the surgeon or the insurance company, and in the middle is the patient," says Ms. Cataletto. "We really have a lot of cards stacked against us and at the end, in order to get reimbursed, the practice must ultimately be responsible to fight and pursue these appeals within a very specific timeframe or they lose the appeals option."

However, it is important that extra time and effort be taken now to prevent insurance companies from continuing this practice to include an even wider range of procedures and claims in the future. "The position taken by surgeons in the past had been that someone else would take care of it; this notion is no longer a tangible option," says Ms. Cataletto. "They have to be involved in the appeals process and provide a presence in their local societies; otherwise, any costly coverage is in danger of going down the same path in the future."

5. Post-surgical denials could mean Medicare doesn't cover medically indicated procedures. In the new policy recently released by Medicare, auditors are finding incomplete documentation indicating spine surgery can be denied reimbursement post-surgically, even if the procedure was medically indicated. Surgeons and providers must have all the documentation of failed non-operative treatment on file.

"If your documentation from the hospital does not include the physician notes of conservative care through surgery, you will not be paid for the hospital stay or physician work," says Ms. Cataletto. "They are doing a post-surgical audit and denying coverage. Post-surgical denials for coverage are based on whatever conservative treatment patients had in the past."

Post surgical denials of services weren't common in the past, but now surgeons are seeing them more often. "They are doing the audits now and they have six levels of appeals before deciding to pay," says Ms. Cataletto. "Most of the post-surgical denials are reversed if the documentation is made available. There is more medical necessity denials now than in the past and it takes time to deal with them."

It is in the best interest of both doctor and patient to have all required documentation well supported and complete at the time of filing for each and every case. ■

10 Top Issues for Spine Surgeons After the Supreme Court Upheld Healthcare Reform

By Laura Miller

At the end of June, the Supreme Court upheld the individual mandate for the Patient Protection and Affordable Care Act of 2010, which aims to reform the healthcare system in America. The Court upheld ACA but struck down the provision of mandatory Medicaid expansion, leaving this decision to the individual states.

Here, spine surgeons and industry experts discuss the top 10 issues with PPACA for spine surgeons and how the Supreme Court's decision will impact spine surgery in the future.

1. Increased pool of patient coverage. Since the individual mandate was upheld by the Supreme Court, more patients will be covered either by a Medicaid expansion, purchasing third party payor insurance or another form of government program. The coverage expansion has a rippling impact on all physicians and surgeons because it will add more patients into the healthcare system without necessarily increasing the number of medical professionals available to treat them.

"The PPACA will attempt to enlarge the insurance risk pools to include coverage of the healthy, low risk population which should make insurance for high risk, sick and elderly more affordable by spreading the cost of healthcare over a larger population of premium paying beneficiaries," says Ara Deukmedjian, MD, founder of Deuk Spine Institute in Melbourne, Fla. "I believe everyone deserves exceptional healthcare as a basic human right and I believe that is also how the President saw it when his administration drafted this legislation. By restoring and preserving health to all Americans we as a nation can focus on working together to bring our nation back to its greatness in the eyes of our countrymen and other nations."

These patients required care before they were insured and the new legislation aims to pay for this care already being given in a more efficient manner. "There are 32 million Americans not

insured and they are currently coming to emergency rooms for care," says A. Nick Shamie, MD, co-director of UCLA Comprehensive Spine Center. He is also president of the American College of Spine Surgery. "Even though they don't have insurance, we take care of them. Now they will have some type of insurance — whether that's a government or private healthcare company."

This increase will likely impact elective procedures, such as many spine surgeries, because insurance coverage will be more focused on life-threatening conditions. "Much of what we do in spine is not life threatening; it's to improve quality of life," says Dr. Shamie. "As a result, I think patients who want to get specialty and elective care will have higher premiums or pay for their surgery themselves. There are some procedures that aren't covered by government or insurance companies, so patients who want those will have to pay out of their own pocket."

2. Lower reimbursements for spine surgery. Spine surgeons and physicians across the board have been reporting a reimbursement decline for the past several years, and this trend will likely continue throughout PPACA implementation. "One of the major flaws in the new law is the fact that the majority of newly insured patients will receive their coverage through the Medicaid program," says Jeffrey Lobosky, MD, associate clinical professor of neurological surgery at the University of California San Francisco. "In most states, reimbursement for Medicaid is dismal and thus it won't address the concerns of surgeons who see their incomes declining nor of patients who lack access because so many physicians have had to limit the number of Medicaid patients in their practice. If the plan remains to pay for this expansion of care by reducing reimbursement to physicians and to hospitals by the Medicare program we will soon see our senior citizens finding access just as difficult as it is for the Medicaid population."

The forced Medicaid expansion across all 50 states was struck down, which means each state will be responsible for covering patients by their own plan. "The Supreme Court effectively deferred the decision on Medicaid expansion to the states, and Medicaid is fully half of the insurance expansion," says Stephen Jenkins, senior vice president of Sg2. "States whose politics and fiscal situation support expanding Medicaid will do so. States whose politics and fiscal situation don't support Medicaid expansion won't."

The more expensive procedures, including those with new technology, will likely be out of reach for the average patient. "The ongoing struggle that remains is how we are going to pay for healthcare improvements, and ultimately which ones are the best value for the government and third party payors," says Thomas Schuler, MD, founder and president of Virginia Spine Institute in Reston, in a presidential address for the Spine Research Foundation. "Unfortunately, improvements which are best for individual patients will be lost in the healthcare debate. The decisions that are being made today, and will continue to be made in the future, are based purely upon economics."

3. Rationing healthcare means less spine surgery. In addition to expanding coverage to all Americans, the passage of PPACA also means insurance companies won't be able to turn away patients based on pre-existing conditions; as a result, insurance companies are assuming higher risk for covering sicker patients. Since spine surgery is often elective — to improve the quality of life instead of to keep a patient alive — some of the dollars going into spine care now could be re-directed to more life-threatening conditions and specialties.

"Lowering the patient's blood pressure, making sure the heart is working well and providing diabetes and cancer care will all take precedence over elective care," says Dr. Shamie. "We will have to ration the care we provide such that people can have as much as possible and to give the benefit to the society as a whole. We have a multi-tiered healthcare system in this country already, but this will make it more apparent because in the past specialty care was at least partially covered."

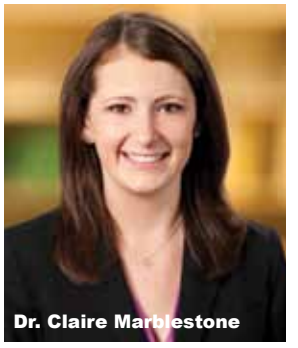
As reimbursement for specialty care is cut or denied, a greater number of spine specialists may stop seeing the lowest-reimbursing government payors, or accept only cash-pay patients.

"It's going to be difficult to find physicians willing to treat [Medicare and Medicaid] patients, and this is already happening," says Dr. Schuler. "The reason these reimbursements have deteriorated over time is that more people are using Medicare and Medicaid."

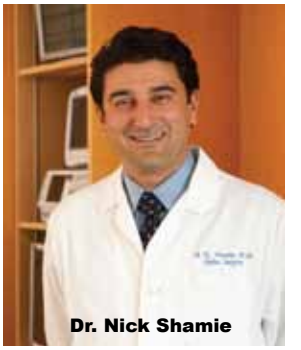
4. Independent Payment Advisory Board has not been repealed. The Independent Payment Advisory Board remains a chief concern of medical providers as a provision of healthcare reform. IPAB was devised by PPACA to evaluate treatment guidelines and suggest Medicare reimbursement using evidence-based medicine research. "Most patient advocacy organizations and nearly all professional medical societies oppose IPAB due to its unrestricted power to impose draconian cuts to health expenditures, including physician reimbursement and drug and device expenditures," according to a response statement released by IASP.

If IPAB is setting the guidelines for Medicare and Medicaid reimbursement, private payors may soon follow suit. Another concern of many healthcare professionals is the make-up of IPAB: 15 members appointed by the president and subject to Senate confirmation that include political leaders, not currently practicing physicians.

"Two burning issues that relate to surgeons is the Independent Payment Advisory Board which is given the power to slash reimbursement with only a modest physician influence and malpractice reform," says Dr. Lobosky. "Almost all physicians' organizations and most Republican lawmakers strongly oppose the current make-up of the IPAB and are working to repeal it. Tort reform has been given nothing but lip service by the current administration yet is a major concern to most surgeons. We'll have to wait and see if there is any movement on these two important issues."


Dr. Claire Marblestone


Dr. Ara Deukmedjian


Dr. Nick Shamie


Dr. Jeffrey Lobosky


Dr. Stephen Jenkins

Dr. Thomas Schuler

However, the focus on research and evidence-based guidelines may also have a positive impact on some aspects of spine care. "We need to provide evidence for everything that we do because truthfully there have been some treatments or procedures that we've offered our patients without solid evidence supporting them," says Dr. Shamie. "We have to become more responsible in providing scientific evidence supporting our treatments. That is easier said than done because it is very costly, and sometimes not feasible for various reasons, to conduct a good study to prove what we do works."

5. Evolving patient-physician relationship as coverage denials increase. Almost everyone agrees healthcare spending is out of control. Currently, America spends 18 percent of its GDP on healthcare, and if this number continues to grow it threatens to consume funds for infrastructure, education and defense. In an effort to curb healthcare spending, the government and payors have established coverage guidelines that limit whether the patients will have their procedures covered based on indications instead of the surgeon's recommendation or patient's treatment desires.

"One of the significant barriers to curing chronic back and neck pain, aside from incorrect diagnosis or improperly executed 'correct treatment' is denial of care by the patient's health insurer," says Dr. Deukmedjian. "Unfortunately, the PPACA does nothing to stop the insurers from adding more medical tests, medications or treatments to their list of 'medically unnecessary' or 'experimental' care. Every doctor has encountered these denials on a daily basis in their practice and the insurers have successfully driven a massive wedge between the doctor and patient relationship, effectively destroying it."

The guidelines are often modeled after research suggesting treatment pathways for the average patient with a spinal condition. However, not every patient is the same and these strict guidelines have no room for variation, which leaves patients who are outliers untreated.

"The problem is this research at best is a suggestion of what works for many patients," says Dr. Schuler. "It does not answer what the solution or treatment is for any outliers. This is where the problem arises. Patients that fall outside common presentations are being denied care by third party payors."

As a result, these guidelines take viable options for treatment away from the surgeon and patient, straining their relationship. "It is the physician's knowledge, experience and understanding of scientific data, combined with the patient's individual and social needs, which allows the two of them to develop the optimal treatment," says Dr. Schuler. "Evidence-based experts and political appointees are not the answer to the best treatment options for an individual or for all Americans."

6. Evidence based medicine means less access to spine care. The focus on evidence-based medicine, lower reimbursements and growing patient population means there will be less access to care for all patients. Strong evidence based studies are few and far between for spine surgery and conducting new high caliber studies present several difficulties, most prominently funding and study design. Most studies are currently funded by industry members and require a placebo, or "sham" procedure, to compare with the surgical patients.

"Not only is [performing a sham procedure] impractical, but it is completely unethical," says Dr. Schuler. "Furthermore, without performing the complete surgical dissection involved in a given surgery, a sham incision would not produce comparable surgical morbidity."

Another issue with creating evidence-based guidelines are those who are reviewing the evidence; there are strong studies with conflicting results that either recommend for or against surgery, and committees can selectively choose which studies to cite in their guideline decisions.

"In discounting many outcome studies that have already confirmed the effectiveness and success of a given therapy, patients are subsequently denied access to life changing treatment," says Dr. Schuler. "There are many reasons that a reviewer would choose to discredit a procedure."

7. Comparative effectiveness research won't always yield the best results. Research is important in the medical field, but not all patients will fit into the path determined most successful by research analysis. Every human is different and brings different variables into treatment, whether they are part of the research or outside of it.

"The basis of evidence-based medicine, as well as comparative effectiveness, is to scientifically prove what treatment is best," says Dr. Schuler. "A significant problem with this concept is that one cannot generalize for all patients."

8. Practice management regulations and expenses. Over the last several years, government regulations on independent medical practices have made it increasingly difficult for surgeons to strike out on their own. A physician recruitment survey from Merritt Hawkins shows that only 1 percent of their assignments last year were for solo physicians while 63 percent were for hospital employment, up 7 percent in one year.

Consolidation within the industry and hospital employment has been a concern for many physicians, including spine specialists. Surgeons coming out of training are increasingly signing hospital contracts while more experienced surgeons are tempted to sell their practice and go under the employment umbrella as a result of the government regulations making it increasingly difficult to run an independent practice. An additional concern for physicians is technology upgrade. Physician practices are now encouraged — and soon will be required — to meet meaningful use requirements. Many practices have begun to work toward this goal by implementing electronic health records systems.

"I think physician practices should prepare for transitioning to EHR if they haven't started that process already," says Claire Marblestone of Felton Nelson. The problem for many practices with EHR is the cost; most systems are expensive and purchasing one at a time when reimbursements are declining becomes challenging.

There are additional issues with implementing the system beyond the initial cost. Physicians and employees must take time to train on the system and fully transfer their records from paper to the electronic system. Finally, if the practice's electronic system doesn't interface with the local hospital's system, surgeons will continue to have trouble transferring the data and patient records.

However, surgeons who do using EHR systems to track their patients, outcome and quality could see increased efficiency in the office visits and collect information about their patients' successes. If surgeons can show they achieve better outcomes, or provide a higher quality of care than others in the market, they could have negotiating power with insurance companies and a strong marketing point in the future.

9. Partnering with others for healthcare delivery. In the wake of healthcare reform legislation, several new types of partnerships emerged to increase efficiency and improve quality of care. These partnerships include accountable care organizations, alignment with hospitals and bundled payment agreements. Many of these partnerships are still in their infancy and the role of specialty care within them remains undefined. However, one theme continues to arise: innovative partnerships between different providers and healthcare stakeholders are encouraged under the new legislation.

"Since PPACA is now going forward, physician practices could partner with Accountable Care Organizations," says Ms. Marblestone. Many providers, including specialty care physicians and hospitals, have been hesitant to engage in ACOs or other alignment models because they didn't want to invest in a new venture that could possibly become irrelevant if healthcare reform efforts came to a halt. The slow release of guidelines for ACOs also played a part in the reluctance to participate. "We'll be hearing a lot more from the Department of Health and Human Services about implementation and what the actual law directs. They have left out a lot of details about how PPACA will be implemented, but I think we can expect to see a lot more from them now that PPACA has been upheld."

In its response to the ruling, the International Advocates for Spine Patients "applauds provisions of the [Affordable] Care Act that increase patient access to primary and specialty care and efforts to better coordinate care (and thus save money) through Accountable Care Organizations and State Health Exchanges."

The independent groups that are able to survive in today's market are often larger groups that provide a full spectrum of spine care and partner with local hospitals.

"The biggest transformation underway in our industry is driving more accountability to providers and asking them to assume risk for their performance across the continuum," says Mr. Jenkins. "That did not hang on the ruling. Those forces are unstoppable."

There have been a few examples — most recently in Michigan, California and Tennessee — where joint replacement surgeons and groups have partnered with insurance companies for bundled payments. Bundling payment means the provider assumes an increased level of risk for the patient's outcome because the insurance company pays a flat rate for the procedure and postoperative care regardless of unforeseen complications or infections.

10. Stifling innovation in the spine market. The spine device and implant market has enjoyed an explosion of technology over the past several years, with minimally invasive techniques and biologics leading the way. Surgeons are now able to perform better procedures for their patients to recover more quickly than in the past, but the future of innovation remains unclear. New technology is often more expensive and a cost-conscious healthcare environment may not support important advances.

For device companies, one of the biggest concerns with PPACA is the upcoming medical device tax. In response to the Supreme Court's ruling, IASP said it "remains concerned about the medical device tax contained in PPACA, as we fear it will limit device companies' ability to invest in newer, improved technologies that can benefit patients and may lead to job losses as well."

Going forward, it may only be those who can afford to pay out-of-pocket for new technology who support these advances and receive better care. "The luxury of advanced care we have been providing has to become more limited now," says Dr. Shamie. "We have to do some rationing because we have more people needing the same care and less resources and financial remunerations for resources. If patients want a new procedure that isn't covered by the insurance company, they have to find another way to pay for them." ■

6 Spine Surgeons on Biggest Opportunities for Growth in Spinal Surgery

By Laura Miller

Dennis Crandall, MD, Founder and Medical Director of Sonoran Spine Center, Mesa, Ariz.: Pain management and conservative care seems underdeveloped in our area.

Ara Deukmedjian, MD, Founder, Deuk Spine Institute, Melbourne, Fla.: Degenerative spinal conditions and pain management will be the areas of greatest growth for the next decade. We are getting better at treating and curing back and neck pain with very little risk to patients due to advances in technology and dissemination of knowledge and skills amongst providers.

Brian R. Gantwerker, MD, Spine Surgeon, The Craniospinal Center of Los Angeles: Minimally invasive techniques minimizing patient stay, blood loss and pain, close collaboration with pain doctors to form organizations to pressure insurance companies to continue to pay for services rendered and to augment our negotiating power.

J. Brian Gill, MD, Spine Surgeon, Nebraska Spine Center, Omaha: I would say the ability to provide spine surgery on a more outpatient basis where patients go home the same day. We are already doing this for several procedures such as discectomies, decompressions and selected cervical fusions. The challenge will be lumbar fusions.

Richard Kube, MD, Founder & CEO, Prairie Spine and Pain Institute, Peoria, Ill.: I would say the best opportunity is in creating an integrated care model for spine and pain. As carriers begin adopting ACO models, having all services under one roof will help negotiating power given you can control all cost variables. Also, it is a model that is attractive to patients and referring providers. When that type of model can be coupled with cutting edge technologies such as minimally invasive procedures or stem cells, there is potential for significant growth.

Paul Slosar, MD, President, SpineCare Medical Group, San Francisco Spine Institute: Survive the onslaught of negative pressure being brought to bear by unreasonable insurance companies telling patients we have no surgical success with spine surgery for DDD. Spine surgeons, and their patients, are being told that the end-of the line treatments for severe disc degeneration is not surgery but continued "non-operative" care. This is not true and unacceptable in the long-run. Spinal fusion surgery has been shown to be as effective as other common "end-stage degenerative" surgeries such as knee/ hip replacements. We must consider winning this access-to-care battle as the primary focus of all of our research and societal advocacy efforts in spine today. ■


Dr. Dennis Crandall


Dr. Ara Deukmedjian


Dr. Brian Gantwerker


Dr. J. Brian Gill


Dr. Richard Kube


Dr. Paul Slosar

Developing an Orthopedic Spine & Neurosurgery Partnership That Works: Q&A With Dr. Edward Benzel and Adam Bartsch of Cleveland Clinic

By Laura Miller

Cleveland Clinic has one of the most revered spinal health programs in the country because they have successfully combined orthopedic spine surgeons and neurosurgeons with other spine specialists to collaborate on patient care and research. Edward Benzel, MD, chairman of the department of neurosurgery, medical co-director of the Cleveland Clinic Spine Research Laboratory and former director of the Center for Spine Health, and Adam Bartsch, PhD, director of the Spine Research Laboratory, discuss the program and trends for spine and neurosurgery collaboration in the future.

Q: Traditionally, where has the conflict between orthopedic spine surgeons and neurosurgeons stemmed from?

Dr. Edward Benzel: Thirty years ago, when I started practice, there was a huge conflict between orthopedic spine surgeons and neurosurgeons. It was rampant and omnipresent. Neurosurgeons had previously tended to perform decompression operations and orthopedic surgeons had focused on both spine decompression and spinal instrumentation. Then, approximately 30 years ago, neurosurgeons began performing spine instrumentation procedures — and then the battles began.

Over the years, the battles diminished in magnitude and frequency, such that today they are few and far between. Orthopedic spine surgeons and neurosurgeons, as it became clear to both sides, had a common ground. Where there had been battles and conflicts, there gradually developed a sense of fellowship. This was present for years at the Cleveland Clinic, and began coalescing into a formative structure in the late 1990s. This was predominantly influenced by a strong sense of collegiality and cooperativeness that had been present for years.

Q: What makes the program at Cleveland Clinic so unique?

EB: When I joined Cleveland Clinic in 1999, we had an orthopedic spine service and a neurosurgery spine service. A combined orthopedic and neurosurgery spine surgery fellowship program was established. This program has grown substantially over the last decade; to six surgical fellows trained annually — usually half from an orthopedic surgery and half from a neurosurgery training background. In spite of the fellowship, the parent departments (orthopedic surgery and neurosurgery) initially maintained their territorial presence regarding finances and operational issues.

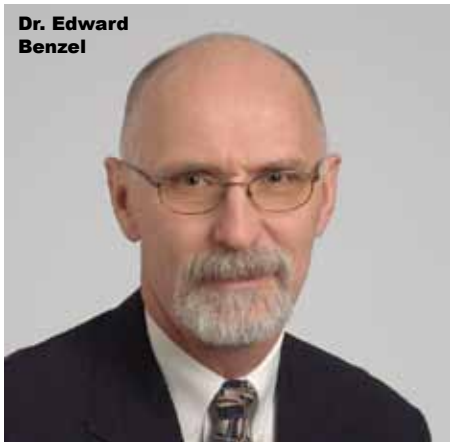
Over a five year period, beginning in the early to mid 2000s, we were able to create one department that 'sat' between the orthopedic surgery and neurosurgery. This was, at the time, called the Cleveland Clinic Spine Institute (CCSI) and the CCSI shared revenue between the orthopedic and neurosurgeons on a 50/50 basis. The CCSI established a separate research laboratory, employed a separate administrator and kept a separate 'pocketbook.' All of this, particularly the latter, helped to unite as 'one.' The orthopedic surgeons and neurosurgeons worked side by side as partners and colleagues, while caring for patients, teaching performing research and innovating. This has subsequently evolved into a Center in the Cleveland Clinic Neurological Institute — the Center for Spine Health (CSH). The name has changed, as has its leadership. The current center director, Gordon Bell, MD, has held the post since the late 2000s. The mission and course, however, have not changed since the inception of the original CCSI.

We (orthopedic surgeons and neurosurgeons) at the Cleveland Clinic distinctly differ from most other academic groups because we are truly partners in each and every aspect of care, research, education and innovation. Most other academic institutions cannot get over the financial barrier — that barrier associated with being united financially as true partners.

Q: What were the keys to ensuring that the Cleveland Clinic program succeeded where others have failed?

EB: The key to our success gets back to what I mentioned earlier — great partnerships. The administrative key is having the same pocketbook. We aren't in competition with each other because of our fundamental training (orthopedic surgeon vs. neurosurgeon). In fact, it matters not whether a case is done by an orthopedic surgeon or neurosurgeon. What matters is simply the provision of quality care. That's the bottom line.

I've seen time and time again, collaborations in other institutions, where there is initial success, with subsequent failure because of a true lack of collaboration. It's hard to have the same research lab and manage finances when you are working with two different departmental infrastructures. Financial competition between departments


Dr. Edward Benzel


Adam Bartsch

prevails as a dividing force that has been often shown to be ultimately insurmountable.

I liken the difference between these two models to a basketball team playing for a collegiate championship versus a weekend pick-up game. The collegiate players are committed to the same team; they have the same coach and trainer, and they work out in the same facility, etc. They practice as a team and work together well. In a Saturday morning pickup game, if things don't go a player's way, he can simply leave early or decide not to show up the next week. Again, the key to success of such teams, both medical and basketball, is a unifying factor that bonds the 'players' together so that they function as a single unit.

In our center, the CSH, if someone is disgruntled, we all work it out — like a family.

Q: In addition to the clinical work, the orthopedic spine surgeons and neurosurgeons also partner in the research laboratory. How does this collaboration work for the researchers?

Adam Bartsch: From the research perspective, a surgeon is a surgeon. We are doing studies where some of the orthopedic surgeons are more involved because they have more of an orthopedics interest — such as a bone fracture or motion between two vertebral bodies. We have some projects where neurosurgeons are more interested — such as concussion work or spinal cord injuries. From my perspective, I don't know, nor do I care, which surgeons are which — because all of the projects I do have orthopedic and neurosurgical components.

We also have the benefit of multidimensional groups of surgeons. Generally speaking, orthopedic spine surgeons have interaction with the sports health providers and the neurosurgeons work more with neurologists and radiologists. We really want to do almost any project related to the head, neck or spine — and we have a team that is poised to 'pull it off' every time.

Collaboration between the surgeons makes the researcher's life easy — real easy.

Q: Are there any benefits of this collaboration you wouldn't have otherwise predicted?

EB: When you have orthopedic surgeons and neurosurgeons working together, they both bring unique skill sets and backgrounds to the middle. It has been suggested that a separate residency training program for spine surgery be created. However, what is unique about our training program is that both specialties have a chance to work with surgeons from the other specialty — hand in hand. I look at it as two overlapping circles like a Venn diagram, because in the middle, 90 percent of what we do is the same.

I think it would be a real shame to eliminate the collaboration between orthopedic surgery and neurosurgery. Our model allows us to provide better care and do better research because of our financial and collegial relationship.

AB: From the research side, the structure of collaboration is great for fundraising and fund seeking because of the broader net we can cast. There are many projects that are a blend of orthopedic and neurosurgical concepts. In spine, if we are looking for funding, we can tap into both orthopedic and neurosurgical sources. Other specialties don't have that opportunity.

Q: How can other hospitals around the country build a foundation for collaboration between spine specialists?

EB: They should begin with a common clinic space so that, on any given day, a surgeon could send cases to your colleague in another specialty, or walk around the corner to a medical spine specialist if the patient doesn't need surgery. In addition, the fact that the physicians are on salary helps. Financial competition becomes less divisive in a salary-based physician reimbursement model.

In addition, we have conferences where we discuss cases and solicit opinions from colleagues. Such a team approach goes far beyond the traditional relationships between colleagues. Meetings happen in the hallway, in the clinic, in the operating room, in the conference room, by telephone and by email. We are constantly communicating with each other. Communication is a very good thing.

Q: Do you think more hospitals around the country will adopt a similar collaborative model?

EB: I believe that such a model will become more common in the future. As physicians learn to deal with the political and economic barriers they face in individual practices or in their institutions, they will gravitate toward a more collaborative care model. It will never work if the physicians are selfish. Just like with a basketball team, every player has to give a little. Once the 'players' do just that and understand the benefits of such a program, it would seem (at least to me) that the Cleveland Clinic model will become much more common and, in fact, common place. ■

Where Minimally Invasive Spine Surgery Is Now & Where It's Headed: Q&A With Dr. Frank Phillips of Midwest Orthopaedics at Rush

By Bob Spoerl


Dr. Frank Phillips

Frank Phillips, MD, co-founded the Midwest Orthopaedics at Rush Minimally Invasive Spine Institute in Chicago. There, he works with spine surgeon colleagues to treat a wide variety of spinal conditions. He has served as president and is a board member of the Society of Minimally Invasive Spine Surgery.

Here, Dr. Phillips discusses recent developments in minimally invasive spine surgery, as well as the roadblocks spine surgeons sometimes face in getting reimbursements.

Question: What is one or two of the most exciting things happening in minimally invasive spine surgery on your radar right now?

Dr. Frank Phillips: From my point of view, having been involved in this space for some time, it is exciting to see minimally invasive surgery gaining widespread acceptance. With the development of enabling technologies as well as enhanced surgeon training — in particular exposure of young surgeons to MIS during their formal training — the procedures can be done more reliably, reproducibly and effectively. Spine surgeons and the public are starting to see it as something that is mainstream and effective. It's really taking off, and that's exciting.

On a personal level, having been involved in lateral interbody fusion (XLIF) since its inception, it is gratifying to see the outstanding outcomes being achieved with this procedure for a variety of surgical indications.

Q: What difficulties are there in the minimally invasive spine market right now?

FP: Payors are pushing back on lumbar fusion surgery in general, putting up as many roadblocks as they can. Also, the FDA process has slowed and getting approval for new technologies has become more expensive and less predictable. These uncertainties have led to the efflux of capital from the spine market and as a result innovation has slowed considerably.

Q: What effect will the excise tax have on innovation?

FP: In my opinion, the 2.3 percent medical excise tax in the Patient Protection and Affordable Care Act will decrease spine companies' appetite for innovation. These companies that will be paying the excise tax off their top-line will no doubt look for ways to reduce expenses and spending. I am concerned that this will result in scaling back on potentially game-changing but higher-risk product R and D.

Q: What will it take for more spine surgeons to adopt minimally invasive techniques?

FP: I believe that the biggest limiting factor has been surgeons questioning whether the downside of struggling through an initial learning phase is commensurate with the clinical advantages of minimally invasive spine surgery. Minimally invasive surgery involves a different skill set and anatomic appreciation to open spinal surgery. Not all "open" spine surgeons have the ability or aptitude to make this transition.

Ultimately, I think adoption of minimally invasive surgery will have to be driven by high-quality evidence and high-quality independent training programs. Traditionally, hands-on training has been done primarily by device companies. This is not an ideal training venue to help surgeons become facile with procedures and get them over the learning curve. But, the training process is evolving. There is a strong push now in surgeon education, to train surgeons through each step of a procedure with the surgeon being required to demonstrate competency throughout.

As far as the evidence goes, studies repeatedly show at least equivalent clinical outcomes can be achieved with certain minimally invasive procedures when compared to their open counterparts, with reduced lengths of stay, blood loss, surgical time, complications, morbidity and expenses. In my own practice, there are certain procedures, such as a TLIF, in which I can't honestly justify doing that procedure open. On the other hand, other questionable "fringe" minimally invasive procedures will not withstand the scrutiny of quality studies.

Q: What are some of the biggest challenges with reimbursement for minimally invasive surgery?

FP: The challenges with reimbursement, in the world we are in today, are a battle over lumbar fusions in general. There's an effort to reduce the number of lumbar surgeries being done. Only occasionally have there been unique minimally invasive challenges, unless the procedures involve a deviation from well-accepted, validated spine surgical principles.

However, spine surgeons do run into issues with denials. In many instances health coverage guidelines cited in these denials are non-transparent, involve little input from clinicians in the field and selectively cite articles to reach pre-determined conclusions. Further, the guidelines are often dated. Lumbar fusion is expensive and payors don't want to pay for it.

Q: How can surgeons overcome those denials?

FP: In the end, it comes down to data and studies. To be fair, up until the last decade, we probably haven't done a great job of collecting data using metrics that matter to the various constituents. Spine surgeons traditionally focus on metrics like rates of fusion, correction on deformity or detailed radiographic parameters that are irrelevant to payors. They care about the cost and the value. The more studies we do on broader issues of cost and value, the more clout we'll have moving forward. We have many studies supporting the effectiveness and value of many spinal procedures, but have done a poor job of getting this message out.

Q: Where is minimally invasive spine surgery headed?

FP: It's going to become more mainstream, the standard for many procedures. I think minimally invasive techniques will move spine surgeries to outpatient or overnight stays, which is already happening. Minimally invasive technique will also keep costs down and improve patient satisfaction. ■

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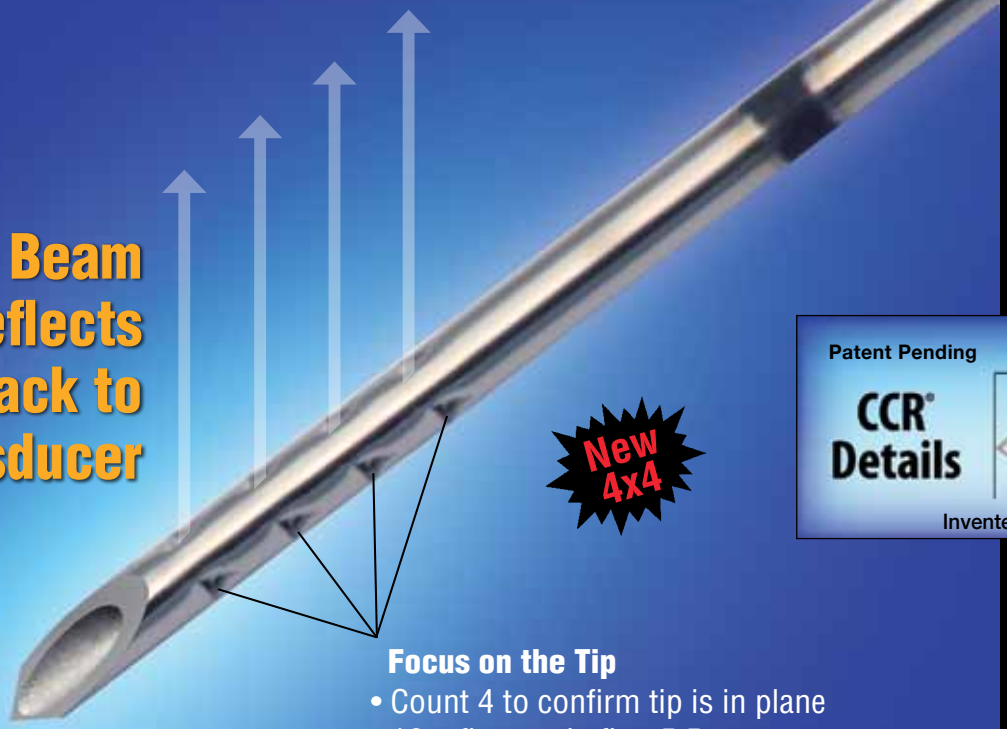

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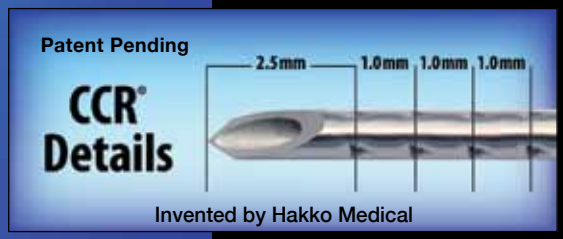

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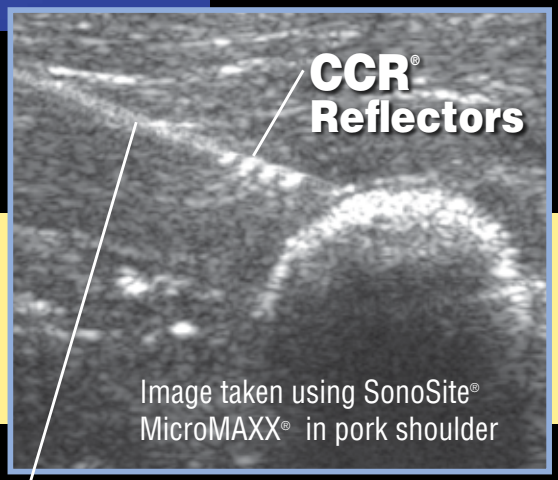

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60 Spine Surgeon Inventors to Know

60 Spine Surgeon Inventors to Know

By Laura Miller

John M. Abrahams, MD (New York Medical College). Dr. Abrahams is associate professor of neurosurgery at New York College of Medicine as well as an inventor and entrepreneur. He developed a medical hydrogel to reduce bleeding during surgery and an injection to treat back pain.

Jeffrey A. Bash, MD (Connecticut Spine Institute for Minimally Invasive Surgery, New Britain, Conn.). Dr. Bash is chief of spine surgery at Middlesex Community Hospital. He has authored several patents and participated directly in the development of new spine products and is on the medical advisory board for US Spine.

Edward Benzel, MD (Cleveland Clinic). Dr. Benzel holds at least nine patents for devices, including a cervical spine stabilization method and system and a spinal column retaining apparatus. He is chairman of the Cleveland Clinic's department of neurosurgery.

Oheneba Boachie-Adjei, MD (Hospital for Special Surgery, New York City). Dr. Boachie-Adjei is the chief of the scoliosis service at Hospital for Special Surgery and an inventor who holds several patents for spine surgery devices. He helped develop the Monarch instrumentation from DePuy Spine and MESA posterior spinal system from K2M.

Scott Boden, MD (Emory Healthcare, Atlanta). Dr. Boden holds at least six different patents for medical devices and his research focuses on spine fusion, spinal disorders and bone regeneration. He is the director of Emory Healthcare's orthopedics and spine center as well as chairman and founder of the National Spine Network.

Charles L. Branch, Jr., MD (Wake Forest University Baptist Medical Center, Winston-Salem, N.C.). Dr. Branch is a professor and chairman of the department of neurosurgery at Wake Forest's School of Medicine. He holds 13 patents for spine technology and co-founded the Brain Tumor Center of Excellence at Wake Forest.

Robert S. Bray, Jr., MD (DISC Sports & Spine Center, Marina del Rey, Calif.). Dr. Bray has contributed to more than 20 patents, including a cervical dynamic stabilization system, SmartPlate spinal implant and a slidable bone plate system. He is the founding director and CEO of his practice, DISC Sports & Spine Center.

Glenn Butterman, MD (Midwest Spine Institute, Stillwater, Minn.). Dr. Buttermann is in private practice at Midwest Spine Institute and serves as medical co-director of the spine division at Midwest Orthopaedic Research Foundation. He currently holds three patents for an intervertebral prosthetic device and the method of performing surgery.

J. Abbott Byrd, MD (Atlantic Orthopaedic Specialists, Virginia Beach, Va.). Dr. Byrd is the Ethics Committee chair of the Scoliosis Research Society. He practices with Atlantic Orthopaedic Specialists and served as chief of spine surgery at West Virginia University. He holds many patents, including one for the Syngery Spinal System.

Robert M. Campbell, Jr., MD (Children's Hospital of Philadelphia). Dr. Campbell invented the VEPTR device for treating thoracic insufficiency syndrome. He is a professor at Children's Hospital of Philadelphia and founder of the Center for Thoracic Insufficiency Syndrome.

John J. Carbone, MD (Harbor Hospital, Baltimore). Dr. Carbone is director of the orthopedic spine services at Harbor Hospital. He holds several patents for orthopedic prosthetics and has a primary research focuses on the biomechanical design and use of orthopedic implants in spinal fusion.

James Lloyd Chappuis, MD (Spine Center Atlanta). Dr. Chappuis is in private practice at Spine Center Atlanta and holds patents for several spine devices, including an internal pedicle screw insulator apparatus and facet fusion system. His patents pending are for devices like the Doppler retractor and modular lumbar interbody fixation system.

Kingsley R. Chin, MD (Institute for Modern & Innovative Spine Surgery, Ft. Lauderdale, Fla.). Dr. Kingsley is the founding spine surgeon at the Institute for Modern & Innovative Spine Surgery and inventor of the FacetFuse Minimally Invasive Screw System and MANTIS minimally invasive pedicle screw system for spinal fusion.

Dennis Crandall, MD (Sonoran Spine Center, Mesa, Ariz.). Dr. Crandall is the founder and medical director of Sonoran Spine Center and founder and chairman of Sonoran Spine Research and Education Foundation. He has developed a new spinal instrumentation system designed to solve certain difficult spinal deformity problems.

Ara Deukmedjian, MD (Deuk Spine Institute, Melbourne, Fla.). Dr. Deukmedjian is the CEO and medical director for the Deuk Spine Institute. He developed the Deuk Laser Disc Repair procedure and instrumentation. The procedure uses an endoscope and laser to perform the procedure through a quarter inch incision.

John Dietz, Jr., MD (Indiana Orthopaedic Hospital, Indianapolis). Dr. Dietz is a spine surgeon with OrthoIndy and the practice's hospital, Indiana Orthopaedic Hospital. He is an inventor and holds multiple patents on surgical instrumentation used during endoscopic spine surgery.

David Ditsworth, MD (Nano Spine Institute, Los Angeles). Dr. Ditsworth is a board-certified neurosurgeon who developed the non-traumatic discectomy for treating herniated and bulging discs. He is on staff at Cedars Sinai Medical Center in Los Angeles.

Steven G. Dorsky (New Jersey Spine Center, Chatham, N.J.). Dr. Dorsky is Chief of Orthopaedic Surgery at Overlook Medical Center in Summit, NJ. He is the inventor of a system of spinal instrumentation that has been used worldwide and is well published. Dr. Dorsky founded New Jersey Spine Center in 1987.

Charles C. Edwards, II, MD (The Maryland Spine Center). Dr. Edwards is medical director at the Maryland Spine Center. He developed a new skeletal reconstruction procedure for patients with conditions such as spinal tumors. He designed a cylindrical brace with rods on either side of the spinal column for the procedure.

Thomas Errico, MD (New York University Medical Center, New York City). Dr. Errico is the chief of spine surgery with New York University Hospital of Joint Disease. He was instrumental in the development of many modern spine surgery implants and was a national principal investigator for the Flexicore Lumbar Total Disc Replacement Trial.

Justin Field, MD (Desert Institute for Spine Care, Phoenix). Dr. Field helped develop RISE, an expandable interbody lumbar cage which is designed for use with endoscopic fusions. The devices is inserted through a 7 millimeter incision and expand to a height of 17 millimeters to restore disc space height and lordosis.

George A. Frey, MD (Colorado Comprehensive Spine Institute, Englewood). Dr. Frey is founder of Colorado Comprehensive Spine Institute and has a professional interest in complex spinal disorders. He has focused on the development of new surgical techniques, spinal systems and implants and holds dozens of patents worldwide.

Charles R. Gordon, MD (Texas Spine and Joint Hospital, Tyler). Dr. Gordon has contributed to the development of many patented devices, such as an artificial functional spinal unit system and an expandable articulating intervertebral implant. He founded the device company Flexuspine along with his practice, Gordon Spine Associates.

Paul A. Glazer, MD (Beth Israel Deaconess Medical Center, Boston). Dr. Glazer is a spine surgeon in Boston. He holds several spine surgery-related patents and treats patients with conditions such as scoliosis, and spinal trauma.

Regis W. Haid, Jr., MD (Atlanta Brain and Spine Care, Atlanta). Dr. Haid holds multiple patents for implants used during cervical lateral mass plating, anterior cervical plating, posterior and transforaminal lumbar interbody fusion and cervical arthroplasty. He is a founding partner of Atlanta Brain and Spine Care.

James Hawkins, MD (Arizona Spine Care). Dr. Hawkins is founder of Arizona Spine Care and co-inventor of some expandable cannula designs. He holds seven patents for those designs. He is the chairman of orthopedic surgery at BEMC.

Robert Hirschl, MD (Mercy Neurosurgery, Des Moines, Iowa). Dr Hirschl invented several surgical instrumentation devices and is a consultant member of a surgeon panel for the development of biological agents. He has authored several professional articles published in medical journals.

Stephen Hochschuler, MD (Texas Back Institute, Plano). Dr. Hochschuler is the co-founder of Texas Back Institute and chairman of Texas Back Institute Holdings. He has several patents for spinal stabilization devices and co-founder of Innovative Spinal Technologies is co-founder of the International Society for the Advancement of Spine Surgery.

Ken Y. Hsu, MD (St. Mary's Spine Center, San Francisco). Dr. Hsu is co-inventor of the X-Stop Interspinous Process Decompression System, which alleviates the symptoms of lumbar spinal stenosis. He holds 43 patents and has been the director of spine surgery at St. Mary's Medical Center since 1988.

A. Jay Khanna, MD (Johns Hopkins Medical Center, Baltimore). Dr. Khanna is an associate professor of orthopaedic surgery and biomedical engineering at the Johns Hopkins University and holds patents for an orthopedic screw system and universally deployable and expandable bone and screw anchor assembly.

Jeffrey A. Kozak, MD (Foundren Orthopedic Group, Houston). Dr. Kozak is a spine surgeon with Foundren Orthopedic Group and has a special interest in performing anterior procedures. He helped design several spinal implants and holds a patent for a spinal fixation device he invented.

Gary E. Kraus, MD (Kraus Back & Neck Institute, Houston). Gary Kraus, MD, is the founder of Kraus Back and Neck Institute and inventor of spinal instrumentation and devices. He has patents pending related to minimally invasive spine surgery. He is the medical director of neurosurgery at Memorial Hermann Northwest Hospital.

Toussaint LeClercq, MD (Huntington, W.Va.). Dr. LeClercq holds a patent on a non-metallic artificial disc. In addition to his clinical practice, Dr. LeClercq conducts research related to traumatic brain injury and artificial lumbar disc replacement.

Casey K. Lee, MD (Spine Care and Rehabilitation, Roseland, N.J.). Dr. Lee is founder of Nexgen Spine, which developed the Physio-L Artificial Disc. He serves as chairman and chief medical officer of Nexgen Spine and continues his interest in the development of artificial disc prostheses.

Isador Lieberman, MD (Texas Back Institute, Plano). Dr. Lieberman holds multiple patents for his technological innovations, including

SpineAssist, a robotic tool he recently co-developed for use during minimally invasive spine surgery. He recently co-founded the Uganda Charitable Spine Surgeon Mission.

David W. Lowry, MD (The Brain+Spine Center, Holland, Mich.). Dr. Lowry is co-founder of TransCorp Spine and inventor of TransCorporal Micro Discectomy. He continues to serve as a board member of the company. He holds two patents for his work and continues his efforts in research and development in areas such as the cervical spine.

Robert Masson, MD (NeuroSpine Institute, Orlando). Dr. Masson is the founder and president of NeuroSpine Institute and a retired Lieutenant Commander of the United States Naval Reserve. He developed the iMAS surgical principles, techniques and products for Synthes Spine.

Paul C. McAfee, MD (St. Joseph Medical Center, Towson, Md.). Dr. McAfee is the director of the Scoliosis and Spine Center at St. Joseph Medical Center. He invented a cervical disc replacement prosthesis and procedure used in 37 countries for patients with neck pain. His additional inventions include spinal rods for scoliosis and fractures.

Richard McCarthy, MD (Arkansas Children's Hospital, Little Rock). Dr. McCarthy invented the SHILLA system, which was developed by Medtronic for patients with early onset scoliosis. The growth guidance system is a rod and screw based system incorporating a flanged screw set designed to capture the rod and allow it to slide as the patient grows.

Robert McLain, MD (Cleveland Clinic). Dr. McLain directs the Spine Research Program at Cleveland Clinic and is inventor of a composite hydrogel artificial disc, a cannulated probe for traspedicular aspiration of autologous osteoprogenitor stem cells and holds a provisional patent for unilateral anterior cervical plate.

Seth Neubardt, MD (Seth Neubardt, M.D. & Jack Stern, M.D., Ph.D., White Plains, N.Y.). Dr. Neubardt is the sole inventor of several medical patents, including one for a spinal procedure to safely insert screws. He has a professional interest in developing technology for minimally invasive spine surgery, such as an electrically insulated surgical probing tool and an apparatus and method for locating defects in bone tissue.

Pierce D. Nunley, MD (Spine Institute of Louisiana, Shreveport). Throughout his career, Dr. Nunley has been involved in the design and development of several spinal implants used throughout the world. He is also involved in research and participated in several clinical trials as the principle researcher.

Said Osman, MD (American Spine, Columbia, Md.). Dr. Osman is an orthopedic spine surgeon with a professional interest in microspine surgery and endoscopic technique. He was involved in the development of several surgical instruments, including the Uni-directional Dynamic Spinal Fixation Device. He is also co-founder of Spine Plus.

Tushar Ch. Patel, MD (Commonwealth Orthopaedics, Fairfax, Va.). Dr. Patel is a spine surgeon with Commonwealth Orthopaedics and previously served as chief of the section of spine surgery at Yale University in New Haven, Conn. He holds six patents for spinal implants.

Miguelangelo J. Perez-Cruet, MD (Michigan Head & Spine Institute, Royal Oak). Dr. Perez-Cruet is the chief of minimally invasive spine surgery at Beaumont Hospitals. He was involved in the invention of a minimally invasive percutaneous pedicle screw and slotted rod assembly.

Kenneth A. Pettine, MD (Rocky Mountain Associates, Loveland, Colo.). Dr. Pettine is co-inventor and co-designer of the Maverick Artificial Disc, a disc replacement device for the neck and back. He is a co-founder of Rocky Mountain Associates and a surgeon at Loveland (Colo.) Surgery Center.

Madhavan Pisharodi, MD (Pisharodi Surgical Clinic, Brownville, Texas). Dr. Pisharodi has secured 25 patents and won FDA approval for four. His product, Saral, is designed to improve a cervical plate system by locking attached screws inside the plate without the use of additional locking screws or tools.

Seyed M. Rezaian, MD (California Orthopaedic Medical Clinic, Beverly Hills). Dr. Rezaian is the medical director of the California Orthopaedic Medical Clinic and the inventor of the New External Bone Fixator and Rezaian Spinal Fixator for stabilizing spinal fractures or replacement of damaged intervertebral bodies.

Andrew A. Sama, MD (Hospital for Special Surgery, New York City). Dr. Sama is fellowship director of the spinal surgical services at Hospital for Special Surgery. He is the developer of an implant system and lumbar cage as well as the inventor and designer of the Integrated Spine System and Pagoda Spine System.

Rick Sasso, MD (Indiana Spine Group, Indianapolis). Dr. Sasso is a founding member and president of Indiana Spine Group. He received approval for a patent for instruments and techniques related to anterior cervical discectomy and fusion as well as safely and accurately placing cervical disc replacements into the intradiscal space.

David G. Schwartz, MD (OrthoIndy Northwest, Indianapolis). Dr. Schwartz is the inventor of the Anteres Spinal Instrumentation System, which is used for the treatment of spinal fractures, scoliosis and tumors. He is the director of OrthoIndy's Spine Fellowship program.

Lali Sekhon, MD (Nevada Neurosurgery, Reno). Dr. Sekhon is spine-focused neurosurgeon with a special interest in cervical myelopathy, degenerative disc disease, spinal tumors and spinal trauma. The practice currently holds 12 patents on eight products related to spine surgery.

Krzysztof B. Siemionow, MD (Illinois Bone & Joint Institute, Morton Grove, Ill.). Dr. Siemionow holds several patents for developing devices and technology used during nerve and spine surgery, and is involved in applications for terahertz electromagnetic waves with scientists from Case Western Reserve University.

Scott G. Tromanhauser, MD (Boston Spine Group). Dr. Tromanhauser is a member of Boston Spine Group and co-founder of Cortek, Inc., a medical device company where the spinal fusion products are based on his patents. He founded Intelligent Outcomes, a company that creates medical decision support tools.

Jeffrey Wang, MD (UCLA Comprehensive Spine Center, Los Angeles). Dr. Wang practices with the UCLA Comprehensive Spine Center and is the director of the UCLA Spine Surgery Fellowship. He is the inventor of an artificial disc, which he used in a spine surgery for Governor Benigno R. Fitial, who was suffering from spinal stenosis.

Sherwin J. Wayne, MD (Orthopedic Sports Medicine & Spine Care Institute, St. Louis). Dr. Wayne is an orthopedic spine surgeon with a special interest in lumbar spine surgery. He invented a positioning device for lumbar spine surgery that lessened operative exposure and minimized blood loss.

Christopher Yeung, MD (Desert Institute for Spine Care, Phoenix). Dr. Yeung helped develop RISE, an expandable interbody lumbar cage which is designed for use with endoscopic fusions. He has also been the principle investigator for several FDA studies, including Flexicore lumbar artificial disc replacement.

Anthony T. Yeung, MD (Desert Institute for Spine Care, Phoenix). Dr. Yeung developed the FDA-approved Yeung Endoscopic Spine System, and was one of the first spine surgeons to utilize endoscopically-guided laser for the degenerative lumbar spine. He was president of the World Congress of Minimally Invasive Spine Surgeons.

Christian G. Zimmerman, MD (Idaho Neurological Institute, Boise). Dr. Zimmerman is chairman and founder of the Idaho Neurological Institute. He holds a number of patents for pedicle screw use including an anchoring device for osteoporotic bone, an expanding screw design and an intervertebral body mechanism to preclude disc recurrence.

Jim Zucherman, MD (San Francisco Orthopaedic Surgeons). Dr. Zucherman is a senior spine partner at San Francisco Orthopaedic Surgeons Medical Group and inventor and co-developer of the X-Stop. He is also in the process of developing the Starflex motion preservation minimally invasive spine stabilization device through Spartek. ■

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12 Tactics for Spine Surgeons to Avoid Hospital Employment
(continued from page 1)

Even though hospital employment continues to grow, harkening back to the 1990s when hospitals snatched up physicians for HMOs, there is still an opportunity for spine surgeons to stay independent and prosper without becoming employed.

"The way to avoid hospital employment is to recognize there is still a great deal of opportunity for surgeons to be profitable," says Dr. Siddique. "Hospital employment isn't a requirement. The key to becoming profitable in this age is to think beyond what surgeons can do with their own two hands."

Here are 12 steps for spine surgeons to avoid hospital employment.

1. Consolidate into a large group of surgeons. While it is still possible to maintain a single spine surgeon practice in some parts of the country, it's becoming increasingly difficult for most spine surgeons — as well as small groups of spine surgeons — to remain independent. Due to increased business expenses and declining reimbursement, small groups often see two choices: sell their practice to the local hospital or merge with a larger group in town.

"Being part of a large spine-focused or orthopedic group, like OSNA, or possibly a multispecialty group, gives you strength and puts you into a position to collect data and negotiate with hospitals," says William Stevens, MD, founder of the Center for Spinal Disorders and OSNA member in Phoenix. "As part of a 70 member group, we have a lot to offer the hospitals."

Spine surgeons or small groups can merge with other orthopedic- or spine-focused groups in their community, or become part of a larger multispecialty independent physician group. They can also expand to include specialists with a spine focus, such as interventional pain management or physical medicine and rehabilitation physicians.

2. Expand your group to include a junior partner. Spine groups looking to remain viable in today's tough economic times can expand their group to include junior partners. "In California, if you hire a junior partner, he or she should be able to become profitable within one year if moderately busy," says Dr. Siddique. "If you bring in the surgeon as a junior partner and pay him a salary with a bonus structure, you can recoup your investments after that first year. If he stays on for a few more years, then you can make him a senior partner."

If you have a surgery center, the junior partner will also bring cases there. If the surgeon fits within the group and becomes a senior partner, he should also have the opportunity to invest in the surgery center and become a full partner.

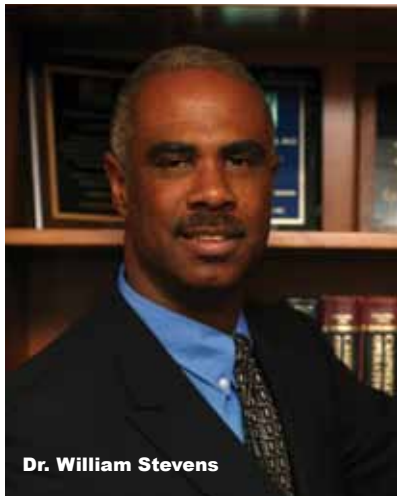
"The junior surgeon will bring cases into the surgery center and increase ASC revenue, which is a source of income that keeps perpetuating itself," says Dr. Siddique. "However, you don't want to saturate the market, so do your due diligence. In spine, it's hard to saturate the market because there is always room for a good person who is personable and has strong surgical technique."

3. Keep practice contracts flexible. With today's healthcare environment changing so rapidly, it's important to keep any contracts your practice makes — with the hospital or otherwise — flexible. "Maintain as much flexibility with your practice as possible," says Dr. Stevens. "The smaller your practice, the more flexibility you need on long term deals, such as lease contracts. Any type of long term contracts should be evaluated carefully because you don't know where you will be over the next few years."

Structure long term contracts so it will be acceptable if you have to make a change, whether due to future hospital alignment or another unforeseen occurrence. Large groups of orthopedic and spine surgeons are less dependent on this flexibility because they have more negotiating power with other entities in healthcare.

"When a practice is acquired by a hospital group, there is often a loss of flexibility in terms of patient referrals and other practice functions," says Dr. Stevens. "In Phoenix, the primary care physicians are selling their practice to the hospital networks and are required to refer within the network, even if they aren't happy with the quality of care from those surgeons. In the end, it really comes down to providing good care and being able to document the quality, which can be used in negotiations with payors and hospitals for options other than direct employment."


Dr. Khawar Siddique


Dr. William Stevens

4. Stay out-of-network with insurance companies. When businesses are looking to improve their revenue, they either raise their prices or reduce their expenses. Most spine practices have already cut expenses to low levels, so it will make a bigger impact on the net revenue if surgeons increase their price. Remaining out-of-network for payor contracts will help surgeons negotiate an appropriate price that will allow them to keep their practice running and provide appropriate care for their patients.

"You can only reduce costs so much before your employees are disheartened, and there are only so many other costs you can cut," says Dr. Siddique. "Instead, increase your prices; this is something that surgeons are very poor at doing. They don't recognize their worth. Be out-of-network to set your own price, or if you must be in-network, know how to negotiate a good price."

In some markets, surgeons are competing against each other for patient volume from insurers by undercutting other surgeons on reimbursement levels. This creates a commoditization effect that isn't good for surgeons or their patients.

5. Invest in a surgery center. Single-surgeon or small group practices depend on case volume to drive their business, but in today's market that revenue stream alone often runs dry. Surgeons can supplement their private practice income by investing in a surgery center, which doesn't necessarily have to include 10 or more surgeons to become profitable.

"Surgeons are dependent on how many cases they do, and if they aren't operating on many there is no revenue," says Dr. Siddique. "Surgeons have to break that thought and turn to ancillary income. The single most important thing that has helped Beverly Hills Spine Surgery is going into the ASC business."

Benefits of owning and operating a surgery center include the independence of running your practice and flexibility in taking care of patients. However, surgeons should be careful not to violate federal or state laws about physician ownership of surgery centers.

"The first thing you have to do is hire a good healthcare attorney who knows the surgery center business and understands how to structure it in your state so you don't violate any laws," says Dr. Siddique. "You can't do it by yourself, but you can have a profitable surgery center with just four surgeons who are committed to bringing cases. If you do it right, you can get a return on investment in a few years. Our surgery center was profitable from the first month and we had a return on investment in two years."

6. Offer hospitals services they want from employed physicians. When hospitals employ spine surgeons, they often looking to capture market share; they also aim to improve the quality and efficiency of their spine service as well as cover on-call responsibilities. Spine surgeons can avoid hospital employment by entering into contracts with the hospital to provide those services without becoming an employee.

"In the short term, hospitals are looking for call coverage, stability of volume and incremental volume increase," says Michael Webb, MD, a neurosurgeon with NeuroTexas Institute in Austin. "In the long term they are looking to set up accountable care organizations and other bundled payment vehicles. They are looking to control referrals. The key is to find where you or your group can provide value in terms of what the hospital wants."

Going into those agreements, it will be important to have quality data available for hospital leaders to understand the value you'll add to their department. "The group should be stable enough to collect outcomes data and show how they can improve quality at the hospital," says Dr. Stevens.

7. Enter into partnership with the hospital. Surgeon groups may also want to enter into deeper partnerships with hospitals than call coverage or payment agreements by contracting professional service agreements or co-management arrangements. These arrangements will allow surgeons to become more involved with the hospital while remaining independent and strengthening their revenue stream.

"I think you'll see more surgeons doing professional service agreements," says Dr. Webb. "In these types of arrangements, hospitals start a clinic and a physician or physician group contracts to provide services for the clinic. The two most common reimbursement arrangements are based on RVU or a percentage of collections."

Surgeons may also have an opportunity to roll call coverage into a medical directorship position or form a management company that will provide expertise in running the orthopedic or spine service line at a hospital.

"These are some of the more complicated relationships available with hospitals, and I think they are a good option for people who are relatively new to the practice, or even those who are established who want to prop up their fee-for-service income but still have the freedom to control their own practice," says Dr. Webb. "For co-management arrangements, the management company is compensated for reaching goals like patient satisfaction or lowering hospital implant cost, which can prop up income without being directly employed."

8. Partner with insurance companies to keep rates competitive. Insurance companies are now looking to make the healthcare market more competitive in terms of pricing, and in some communities large physician groups are able to partner with them to keep costs low. "In states where there are favorable payors and workers compensation, partnering with payors instead of hospitals will help surgeons avoid employment," says Dr. Stevens. "Take advantage of the fact that payors are leery of hospitals being in the position to call all the shots."

For example, in Utah costs are high because hospitals have employed nearly all surgeons in the state. Since hospitals employ all the surgeons, they can demand a higher rate from payors than otherwise possible.

"When insurers look at their costs in places like Utah, they aren't happy with hospitals and large systems controlling everything in the market," says Dr. Stevens. "You can partner with insurance companies on contracts for reimbursement and providing care if they are concerned about hospitals having too much control. You can also work with them on an accountable care organization or bundled payments where the payment goes through the physician first."

Large orthopedic groups around the country are now exploring this option with payors, and it could become more common among spine surgeons as well. "With a large group of surgeons, such as OSNA, you are in a position to take advantage of these partnerships," says Dr. Stevens. "We are in the early phases of exploring these kinds of partnerships, but insurers are excited because they think we can do a good job of keeping the price down."

9. Examine partnership deals to ensure revenue is flowing in your direction. When drawing up partnership contract with hospitals or payors, make sure the deal is structured to keep revenue coming into your practice. There should be complete transparency between all groups involved.

"Demanding transparency is the number one thing you need to do in a hospital contract," says Dr. Stevens. "Don't just sign a deal with the hospital, even if it's participating in an ACO as a non-employed provider. If you are being reimbursed through a bundled payment system, you may be at the mercy of the hospital and their revenue sharing/expense allocation formula — and that formula will be subject to change if it is not successful from the hospital's standpoint. It is important to understand all aspects of the relationship and demand efficiency from the hospital."

Surgeon groups should also demand participation in the efficiency and management of the partnership so they have stake in its success. "You don't want to be in the situation where you are happy with the payments for the first one or two years, and then they can just change it so you are unhappy during years three and four," says Dr. Stevens. "In the end, it comes down to maintaining the viability of your practice and taking care of their patients."

10. Become aware of hospital incentives and advocate for fair treatment. Surgeon relationships with hospitals are sometimes strained by competing incentives. A surgeon's livelihood and reputation often depends on the quality of outcomes and patient satisfaction, but hospitals can maximize revenue by coding specific diagnoses or billing for complications.

"There is inaccurate data in the spine field because surgeons will perform spinal fusion for patients with several combined conditions, but hospitals will just code stenosis — even if there is deformity or spondylolisthesis as well," says Dr. Stevens. "Surgeons need to be aware of what the hospital is coding and whether it's the same as the physician documents. If it's only coded as a few issues, that doesn't reflect the full pathology and can skew data."

Quality reports are another area where surgeon and hospital incentives differ. "I had a negative quality score from an insurer because the hospital coded two durotomies and two cases of atelectasis as postoperative complications to maximize their reimbursement and it reflected negatively on me," says Dr. Stevens. "I had higher apparent rate of complications in my patients, compared to other surgeons, when the real difference was not my incidence of complications, but the aggressiveness of the hospital coding of complications for increase reimbursement."

To repair these differences, hospitals and surgeons need to work together to maximize income through quality and efficiency. "We need transparency on what the hospital is billing for and make sure they aren't being overly aggressive for comorbidities," says Dr. Stevens. "I've also have them code certain common comorbidities as a pulmonary complication with the patient, which gives the hospital more reimbursement but reflects poorly on me. I need to partner with the hospital so I don't get billed as having poor quality because they receive more money."

Being in a larger group can also help in this situation. "A larger group allows you to negotiate and demand that our quality measures are valid and real," says Dr. Stevens. "Those are the incentives hospitals have. We need to be aware of that and make sure they aren't unfairly coding for these incentives. A large group like OSNA can help you partner with the hospital to provide financial incentives to physicians who are able to save the hospital money, and at the same time help the hospital to collect genuinely meaningful quality data."

11. Joint venture with a hospital on ancillary services. There may be the opportunity in the future to enter into a joint venture with the hospital on new ancillary services, such as an ambulatory surgery center or physical therapy services.

"If your group has a large volume of outpatient cases already, you can approach the hospital to see if they would like to work with you on an ASC joint venture," says Dr. Webb. "This is predicated on you having the volume to make the ASC work in the first place. The key is to approach the hospital with a sense of your ability to meet their needs."

While its important to accommodate for the hospital's needs where necessary, keep your own interests in mind as well. Find out where you can leverage your strength and don't be afraid to walk away from the deal if the hospital isn't willing to compromise.

"The more cohesive your group is, and the more flexible you are to move cases to other places, the more ability you will have in making these arrangements," says Dr. Webb. "You are always going to lose some control over your practice when you negotiate with hospitals, but the key is to negotiate to get something back. You shouldn't have to give anything up without receiving something in return."

12. Bring business sense to your side. Like it or not, surgeons in private practice these days must have a strong business sense and make the right decisions to stay independent in today's healthcare environment. If you aren't comfortable making those decisions, take business courses or earn an MBA to gain confidence in your skills.

"For me, business was self-taught," says Dr. Siddique. "I made a few mistakes along the way, but I never made the same mistake twice. I also finished an MBA; but, some surgeons might be comfortable running a practice or ASC without formal training."

Some surgeons would rather focus on their clinical practice than running a business, but still wish to remain independent; these surgeons should consider hiring an office manager with an MBA who has experience in healthcare. There are also management companies that can run the practice or surgery center for the physicians. ■

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10 Trends in Reimbursement for Spinal Surgery **(continued from page 1)**

board member of the International Society for the Advancement of Spine Surgery. "If they say it's based on Milliman criteria, you should have a copy of that. Insurance companies or professional societies should be able to provide you with these guidelines."

This is especially true for lumbar fusions. "Milliman guidelines that drive insurance company policies continue to become stricter in their criteria for approval for lumbar spine fusion surgeries," says Dr. Goldstein. "It's important to know exactly what each insurance company requires before submitting for pre-authorization."

Spine surgeons and societies are now working on updated guidelines for appropriate care, but these efforts are still in their early stages.

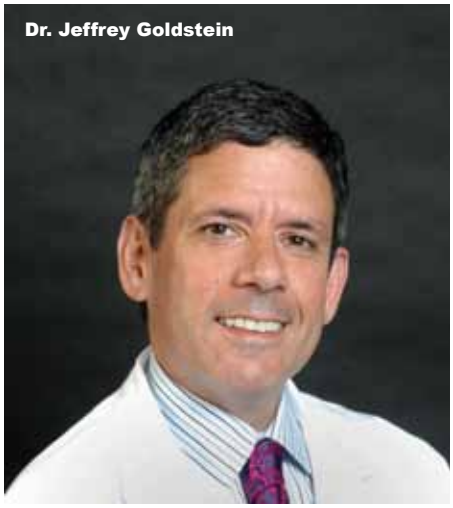
"We have reached a defining moment in spine surgery for United States reimbursement where surgeons must engage politically and hold their medical societies accountable," says Dr. Goldstein. "To ensure continued patient access to appropriate spine care, it is critical the various spine societies collaborate on developing treatment guidelines that are reflective of the current standard of care. These guidelines should be the driving premise for all payor coverage guidelines."

2. Denials are more common today than ever. Spine surgeons are seeing more denials today than ever for various reasons. According to Dr. Goldstein, some of the most common reasons for denying spine surgery include:

- Not medically necessary or a poor indication
- The surgery is experimental
- Conservative therapies were not met or structured physical therapy wasn't documented
- Medical terminology for the surgeon's dictated notes and imaging reports did not match the insurance company's medical guidelines terminology for approval
- When submitting the preauthorization, the surgery indicates an acronym
- Additional tests to the MRIs or CTs are necessary, including flexion/extension or nerve study tests
- Bone morphogenic protein use is not FDA approved for off label requests

"A core issue in spine surgery denials are the number of treatment variables and algorithms that are either not clearly defined and defended by any spine surgeon societies or interpreted by non-surgeons and opportunistically converted into restrictive commercial payor coverage policies," says Dr. Goldstein. "There is no doubt that spine continues to rapidly evolve which inherently creates complexity; however, until the insurance 'industry' reflects treatment guidelines driven from spine surgeons and societies there will be a foundational disconnect."

The appeal is often time consuming for the surgeon and their staff members to gather all the necessary information and present it to the insur-


Dr. Jeffrey Goldstein


Dr. Christopher Kauffman

ance company every step of the way. However, the appeal is necessary for advancing coverage.

"It is important that surgeons attempt to appeal an implant or procedure denial rather than acquiescing," says Dr. Goldstein. "When offered an alternative upon prior authorization, it is critical the surgeon consider the best option for the patient, not the easiest pathway to approval."

Services such as the Spine Care Alliance can represent patients after all denials through conventional means have been exhausted.

3. Payors are demanding more documentation. Spine surgeons across the country are hearing they need more documentation from each case before payors will approve surgery. Sometimes surgeons can predict the type of documentation they will need, such as proof the patient took the appropriate pathway of physical therapy and epidural injections before deciding upon surgery; other times, the missing documentation isn't quite as clear.

"Sometimes when you are asking for approval on the big ticket items, payors aren't very straight forward about what you need in your documentation," says Christopher Kauffman, MD, a spine surgeon in Nashville, Tenn., and chair of the North American Spine Society's Professional Economic and Regulatory Committee. "You can tell them how long the patient has been having problems and show them they've been through the treatment pathway, but the payor will still deny surgery because you don't meet all the requirements, but they won't tell you what the requirements are. I can't do a good service for my patients if I can't answer these questions."

Gathering all the documentation necessary can be challenging for spine surgeons, especially when patients have their non-operative care elsewhere.

"Often, the primary care physician has overseen the non-operative care and we may not have put all the medications, physical therapy and ESIs performed in our notes," says Dr. Kauffman. "The insurer sees that this is the patient's first visit to the surgeon, so they assume the patient hasn't done anything else and isn't a candidate for surgery. Payors think they are approving too much too often; they are of the opinion that surgeons have had it too easy for too long and surgeries were approved just because surgeons said they needed it done. That's why there are stricter guidelines and more denials today."

4. Insurers won't cover lumbar fusions. Surgeons are having the most trouble obtaining approval for lumbar fusions, especially in the absence of gross instability. "Payors are really hitting lumbar fusions hard and they are saying 'no' more than they are saying 'yes'," says Dr. Kauffman. "Any time you do a multilevel fusion, that's a big red flag and insurance companies are denying them right away. Lumbar fusion is going to be the catch phrase for years to come."

Surgeons seeking approval for lumbar fusions in patients with degenerative disc disease, a once common diagnosis for spinal fusions, are now being asked to provide extensive documentation and are often still denied. There are some times when the diagnostic tests may not support the diagnosis of instability, and in those cases the surgeons must do extra work for approval.

"Many times insurance companies are denying coverage because there isn't instability recorded on the MRI, but an MRI isn't necessarily a test of instability," says Dr. Goldstein. "You have to explain why you see things that the radiologist didn't see, like images from your standing X-ray showing instability. You have to advocate for your patients."

The increased scrutiny on lumbar fusions has made patients jump through hoops for coverage, even after they follow the treatment pathway. "Most patients don't want to follow up with the surgeon for a year before surgery as they go through non-operative care," says Dr. Kauffman. "They often have done that already with their primary care physician. It costs them money and time to go through the process again, and it becomes onerous to the patient. Surgeons have to get better at documenting everything, even all of the care rendered by other providers."

5. Payors are investigating each case more deeply. Today's payors are investigating cases more than ever; it's not enough to show them the patient is indicated for surgery — now they want to know all the details of the case from how surgeons will approach the surgical site to what implants and instrumentation they will use. When payors contact surgeon offices, front desk staff don't know these details; surgeons must spend their time describing the case to payors before it begins.

"Payors want to know whether you are going to do an anterior, posterior or lateral approach; what cages and screws you are going to use; what kind of bone graft will be used," says Dr. Kauffman. "United has just come out with an extensive policy severely limiting the type of bone graft that is acceptable. They are trying to limit the newer synthetic types of bone graft; sometimes there is a reason we want to use that graft, but there is no room for exceptions.

For example, Dr. Kauffman's practice serves a large population of Jehovah Witnesses and they won't take an allograft; if they can't use an iliac crest donation, the newer synthetic bone grafts are their only option. "When you get the insurance company on the phone, they say that isn't their problem," says Dr. Kauffman. "But allografts are against the patient's religion."

These questions lead to ethics issues among spine surgeons. "If an insurance company is going to authorize a one-level spinal fusion, the company shouldn't be saying whether you can use a specific implant or technique," says Dr. Goldstein. "I don't think there is any data suggesting one procedure is better than the other; it depends on the surgeon's expertise and

comfort. The insurance company is really crossing the line in those situations by treating a patient who they've never seen."

6. "Peer-to-peer" reviews aren't with a "peer." When insurance companies deny coverage for spine surgery, surgeons can appeal that decision to a "peer-to-peer" review. In many cases, the insurance company's "peer" isn't a spine-focused surgeon and often is no longer a practicing physician.

"Your first appeal will be peer-to-peer, which might mean you are speaking to a retired pediatrician," says Dr. Goldstein. "That isn't a peer. Your peer is a surgeon who is practicing in your subspecialty. Even doing a peer-to-peer with a sports medicine surgeon would be a stretch for a spine case."

Ask the insurance company's reviewing surgeon for their qualifications to see whether they are a practicing spine surgeon. "Spine surgeons have to wait until the insurance company's 'expert' is available and it might be a radiologist," says Dr. Kauffman. "That's not an appropriate person to go over spine cases. It can be very frustrating."

7. Payor medical directors are becoming more involved in coverage decisions. If the "peer-to-peer" review and other steps of the appeals process fail, surgeons can approach the payor's medical director and advocate for coverage. These individuals can be an influential partner in gaining approval for patients with individual considerations.

"Spine surgeons should talk with the local and regional medical directors regarding the basic principles of spine surgery and share the clinical outcomes of well-selected spine care patients," says Dr. Goldstein. "Continued appeals for inappropriate denials are critical to ensure focus and pressure on changing the coverage policies that drive them. Quite frankly, I have generally been successful advocating for my patients when I personally approach the medical director or peer-to-peer with a good understanding of why the procedure I am recommending does in fact fall within the carrier's medical guidelines."

8. Surgeons are collecting more data on their cases. Since insurance companies are questioning cost effectiveness and quality outcomes of spinal surgery today, surgeons are spending more time collecting data to prove their procedures work and are actually saving the healthcare system money in the long run.

"We as physicians have to position ourselves so we are collecting data," says Dr. Kauffman. "This doesn't mean that everyone has to be a researcher in a big academic institution, but surgeons should record their surgeries and results in a registry. It's hard to do business now and see the results several years down the road, but this level of follow up is going to be necessary to prove surgery works. Insurance companies assume it doesn't work and we have to document our patient outcomes to show efficacy."

Some insurance companies are denying surgery because there isn't enough long-term data to support the procedure, even when there is five to seven year follow up data. "Some insurance company policies are looking to broadly deny coverage for what they perceive to be an expensive area of surgery, saying there isn't long term level one data," says Dr. Goldstein. "We have five to seven year data, and they don't have that many years in other subspecialties. It's expensive to generate data, especially when they use their own criteria, which are not objective, to deny care."

9. RAC audits could retrospectively deny coverage. RAC audits are becoming more common and could make an impact on spine surgeons' practices in the future. Even if surgeons are able to gain approval for surgery, perform the surgery and receive reimbursement, if a RAC auditor retrospectively finds you didn't have the right documentation for surgery they'll request a refund.

"The Medicare RAC auditors will give you the appropriate or updated guidelines, but that is for the future," says Dr. Kauffman. "They will want their money back for the past cases. Surgeons are not going to know what to do in this situation. They have to have the right documentation both in their office notes and in the hospital record; EMR can give people an advantage in this realm because if your practice takes the time to have different templates for herniated discs, spinal stenosis, ect., you can add to that template continuously and make sure the person has taken the right pathway for fusion. That gets the surgery approved and helps you on the back end."

EMR can help surgeons document for Medicare and private payor cases. If you don't have EMR, staff members can help you make sure patients have been through every step of the treatment pathway before requesting surgery.

"Staff has to help you make sure to schedule the patient for surgery and look at the checklist for the treatment pathway to point out if something hasn't been done yet," says Dr. Kauffman. "They can highlight what you need to do to help the patient get approval when surgery is the next step in their care."

10. Spine societies are becoming increasingly involved in surgeon advocacy. Spine societies are becoming more involved in advocacy efforts on behalf of spine surgeons and their patients to ensure appropriate coverage and reimbursement in the future. More surgeons are also becoming involved in these organizations and working within them to affect change.

"Work with any society, including your local state society, to make a difference," says Dr. Kauffman. "That's the only way you are going to affect any change; have your results and work with your state, local and national societies because that's the only way we have a voice."

Even if the surgeon can't directly participate in the advocacy efforts, contributing financially to the society or engaging in a conversation about position papers and guidelines can make a difference. "Surgeons must take on the role of a surgeon advocate and support our societies," says Dr. Goldstein. "The role of the societies will be even more important as surgeons become busier; they will rely on societies to be their advocate." ■

8 Benefits for Spine Practices of Adding Pain Management

By Laura Miller

As the healthcare industry continues to change, spine surgeons and practices are increasingly partnering with pain management and physical medicine specialists to grow their practice and remain independent. However, some groups, such as Southeast Spine Institute in Mt. Pleasant, S.C., incorporated that model years ago because of its clinical and economic strengths.

"We started with a philosophy that we weren't just going to be a group of spine surgeons — we were going to practice spine medicine," says Don Johnson, MD, medical director at Southeastern Spine Institute. "Practicing spine medicine means we are treating all patients with back pain and spinal disorders, not just patients who need surgery. In the past, surgeons wouldn't see patients if they didn't need surgical procedures; I think that's old school and most practices don't do that anymore."

Here are eight benefits spine practices realize after adding pain management.

1. Pain management physicians can improve practice revenue. Spine practices will boost their revenue by keeping specialists and services in-house. "It makes economic sense to keep everything under one roof," says Hal Blatman, MD, founder of The Blatman Pain Clinic in Cincinnati.

Besides bringing in additional patients and keeping referrals in-house, partnering with a pain management physician can increase revenue because surgeons can spend more time in the operating room with surgical patients while pain management physicians treat the pain patients.

"The practice becomes more lucrative because the surgeon makes more money doing surgery, so they should spend time doing that," says Dr. Blatman. "The pain physicians have their own expertise and can deal with patients who don't need surgery."

2. More services allow the practice to compete with the hospital. For physicians and surgeons who wish to remain independent, a large multispecialty spine and back pain practice offers an alternative option to hospital employment. By capturing the non-operative back pain patients in addition to the surgical patients, as well as revenue from ancillary services, spine surgeons and pain physicians can remain independent and even compete with the hospital.

"Part of what all physicians have to do is compete with the hospital and the way you do that is by providing traditional hospital services," says Dr. Johnson. "For physician recruitment, usually hospitals are able to offer bigger bonuses and larger guaranteed salaries that are loosely tied to production. However, when the contract comes up for renewal the physicians are paid less money, expected to work harder and have less autonomy. The best time to recruit is after physicians have finished a three-year contract with the hospital because they are unhappy and ready to try their hand at the private practice of medicine."

Revenue from ancillary services allows The Southeastern Spine Institute to pay competitive starting salaries to new physicians.

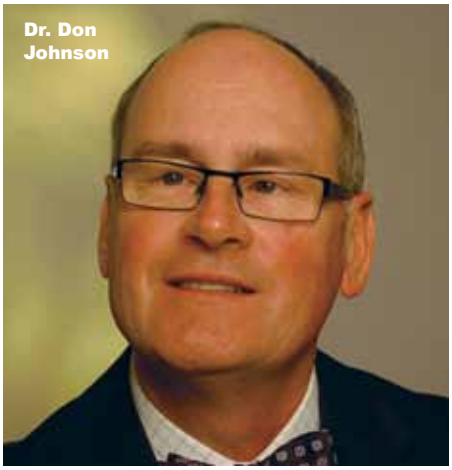
3. Surgeons will have more time with surgical patients. When spine surgeons partner with pain management physicians, they may see fewer patients but the patients they do see will likely need surgery.

"Spine surgeons would rather do surgery than talk to non-surgical patients about pain management, and they have time to do that if there is a pain physician in the practice," says Dr. Blatman. "The pain physician is going to be up to date on the latest and most innovative treatment for pain and trained to work with pain patients. As a result, pain physicians could be much better suited to handle these patients."

Pain physicians are also trained to care for pain patients, who often want someone to listen to their story. "The pain patient is a difficult patient to care for and it takes a certain breed of person to listen to their complaints every day and help them," says Dr. Blatman. "While surgeons focus on surgical cases, pain patients can spend time with the pain physician."

4. Patient outcomes will improve. Spine surgeons can consult with pain management partners about their cases to make sure there aren't any other options before performing surgery. "There are some patients who have a lot of pain and surgeons are wondering whether they need surgery," says Dr. Blatman. "The pain physician can serve as a consult to see if there is something else they can try, or if proceeding to surgery is the best option. Just having another voice on the team to confer with under the same roof facilitates a quality improvement."

When the spine surgeons and pain management physicians are truly integrated, the surgeons will experience higher success rates because they are only performing surgery on patients with the best indications; other patients are seen by the pain physician.


Dr. Don Johnson


Dr. Hal Blatman

"Success rate goes up because surgeons aren't doing surgery when it won't help," says Dr. Blatman. "Sometimes the surgery might be perfect but the patient is still miserable because they needed a different treatment. With other specialists, surgery will be performed less often but be more focused and highly successful."

5. Pain management fills in the treatment gaps. When Dr. Johnson first launched his practice with one other spine surgeon partner, they quickly realized a significant number of patients coming through the door didn't need surgery. "Rather than not taking care of these folks or referring them back to their primary care physicians, we decided to fill the gaps with non-surgical treatment such as physical medicine and rehabilitation," says Dr. Johnson. "Two years after that we brought on a pain management physician to fill the remaining treatment gap."

Now, the practice includes four spine surgeons, three physical medicine and rehabilitation physicians, three pain management physicians and an anesthesiologist. The pain management physicians perform spinal cord stimulators, pain pumps and minimally invasive lumbar decompressions, among other procedures.

"Most patients want to see surgeons first and then the other doctors, but we put them on the right pathway to see the non-operative physicians first," says Dr. Johnson. "They go to see the PM&R physicians for injections and almost ever patient sees the pain management physicians before they see a surgeon. Our pain management is almost a practice within a practice."

Additionally, you can create an integrative medicine program that focuses on all aspects of care, including nutrition and diet as well as prolotherapy and trigger point injections. "That is a much more successful practice from the standpoint of patients getting better," says Dr. Blatman. "An integrative approach reduces pain and helps patients heal."

6. Pain physicians can assist with surgical procedures and prescriptions. The pain management physicians at The Southeastern Spine Institute are all fellowship trained and credentialed to put in all of the diverting lumbar drains for spinal fluid leaks before surgery.

"In our hospital, we were able to get them credentialed to put in lumbar drains," says Dr. Johnson. "They manage the lumbar drains and they also have privileges to be the co-surgeon for laminotomy. They are very self-sufficient and can do spinal cord stimulators without the surgeon present."

Additionally, laws are changing in some states, requiring anyone who prescribes medication to relieve chronic pain to have a license. If surgeons don't have this license, they cannot prescribe medication after the post-operative period.

"In the state of Ohio, a surgeon can't prescribe pain medication for chronic pain unless they have a license," says Dr. Blatman. "Having the pain physicians do this is easier for the surgeons as well. States are changing their laws and requiring a higher level of monitoring for patients with chronic pain medication, which is another aspect of the practice pain physicians can take over. The surgeon doesn't need to be responsible for making sure the patient is using their prescriptions appropriately; instead, he can focus on making sure surgery is indicated and delegate pain management to someone else on the team."

7. Additional services increase patient flow. Bringing on pain management physicians and other back pain specialists can increase patient flow to the practice. At The Southeastern Spine Institute, physicians do more than 1,000 injections and rhizotomies per month. Overall, the pain management physicians have performed spinal cord stimulator implantations for 7,000 patients since joining the practice.

The increased patient flow means additional revenue, and if the patients reach a point where non-operative care isn't effective, they will use your surgical services as well.

"It's convenient because we are in the same building, so the surgeons will send patients to the pain management physicians, but it's also not unusual for pain management physicians to send us their patients who have developed more complex problems, such as disc degeneration," says Dr. Johnson. "When their patients have a new trauma, I get a call from the pain management physician saying they have a patient they need the surgeon to see right away. We can deal with those patients here as well, so it's not a one-way referral street."

8. Bringing colleagues and services in-house is more convenient for the patient. Spine surgeons are only one of several specialists back pain patients see, and there are several services beyond the traditional physician practice they need. Bringing those specialists and services in-house is more convenient for the patient and keeps revenue in-house.

"When I see patients who need pain management, we are able to have the patient seen by the pain physician the same day because they have an adjoining building on the same campus," says Dr. Johnson. "Since we are in a rural place in South Carolina, 60 percent of our patients come from more than 60 miles away. We are set up so that when someone comes a long way to see us, they can get an MRI, injection, brace and see the pain management physician all in the same day."

As part of the pain management services, the practice has hired a psychologist to work with patients who have chronic pain. "Our pain management physician works closely with our psychologist to see chronic pain patients with depression," says Dr. Johnson. "Most insurance companies require patients have a psychological evaluation before implanting a spinal cord stimulator pain pump. It's helpful to have her at the office for those patients who need her services." ■

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Inside the Orthopedic Bundled Payments Program in Tennessee: Q&A With TriZetto's Camille Van Vurst and Blue Cross's Dr. Thomas Lundquist

By Laura Miller

Camille Van Vurst, RN, MBA, vice president of accountable care strategic advisory services at TriZetto Group, and Thomas Lundquist, MD, vice president of performance measures at BlueCross BlueShield of Tennessee, discuss the bundled payment program that was recently announced for joint replacements and arthroscopy. Ms. Van Vurst and Dr. Lundquist have been working with physician representatives from Tennessee Orthopaedic Alliance, Vanderbilt Medical Group, Knoxville Orthopaedic Clinic and Campbell Clinic to launch the program.

Q: How was the bundled payment structure formed?

Camille Van Vurst: We have a very collaborative relationship with BCBS of Tennessee and wanted a strategic partner to work with them to introduce the payment bundling program and they would assist us with further development of the Payment Bundling Application to standardize it for the industry.

Healthcare practice is different regionally, so it was important for BCBST to gain the experience of the payment bundles in different locations. BCBST selected groups from Nashville, Memphis and Knoxville. We met with the providers and discussed the program and the role of the surgeon, hospital and payor. From the very beginning, the surgeons were involved in decision making about the program. We have partnered with BCBST, and also functioned as the facilitator at weekly meetings with providers. We had representation from each surgical group present at the meetings. The surgeons made time for weekly meetings, which showed the importance of the project to them. It has been exciting to see physicians so engaged. They had a seat at the table, equal voice and opportunity to make a decision that would make a difference in this healthcare model.

Dr. Thomas Lundquist: Physician involvement and leadership is absolutely critical to the success of bundled payments. They have to engage in and review the data to define the bundle and identify best practices that, in many cases, will lead to efficiency. Our approach with Blue Cross has been very collaborative. From day one, we've had Blue Cross and TriZetto representation at the table reviewing data with the physicians, and we allow them and their partners to have a significant role in defining the shape of this initiative.

We're still in the implementation stage, defining the bundles and care plans with the physicians and other ancillary providers working together.

Q: I have heard of bundled payment programs in joint replacement, but it seems like bundled payments for arthroscopy is rarer. How will the program for arthroscopy differ from joint replacements?

CV: Arthroscopy is performed on a more frequent basis than joint replacement, so the volume of member experiences will be significantly increased. We want to refine the payment bundling application and continue with process improvements so the experience is seamless to the members and providers.

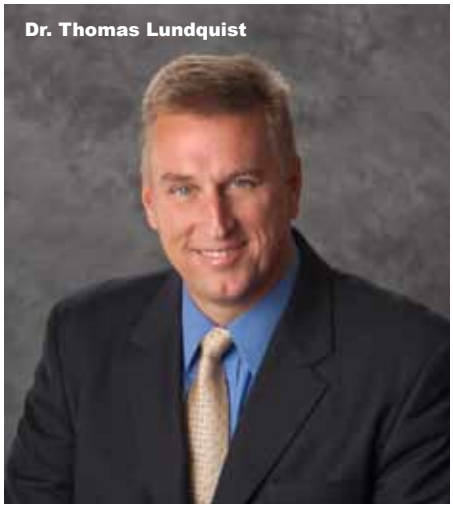
Q: What benefits are there for the surgeons to participate in the bundled payments?

TL: The bundled payments get the physicians thinking more broadly about their own fees to the overall management of their care prior to, or up to, 90 days for total hip and total knee replacement. They realize a couple of things: Their fees are relatively small compared to the total cost of care for the patient and they can impact the cost of care significantly. There is tremendous variation in the care plans for patients and all of it can't be best practice.

They start having conversations about what is really the best care for patients and thinking about the overall cost of care. We've defined the bundle and what should be included in the overall cost, from that we've increased incentives for them to maintain and improve quality.

Q: How does the bundled payment program and incentives work?

CV: The payment bundle reimbursement is tied to performance as well as quality and efficiency measures related to clinical outcomes of the specific condition. The member is also being given a voice to share their experience. Today we hear about different reimbursement models primarily consisting of a global payment for the procedure and an incentive payment tied directly to quality and clinical outcomes.


Dr. Thomas Lundquist


Camille Van Vurst

Q How do you decide the level of payment given to each party based on the global fee for an episode of care?

CV: The level of payment to each provider for an episode is decided upon by the providers. The payors aren't involved in the decision or distribution of the funds.

Q: Were there any surprises you encountered throughout this process?

TL: We anticipated that this would be a lengthy implementation process, but the duration of

time continues to stretch. This is a monumental shift in how physicians do their month-to-month, day-to-day practice; it takes a lot of collaboration and management. The second thing that was surprising was how big of an undertaking it has been to update our systems. Those who are inside of insurance understand how complex claims processing and management of risk is; the shift was a complex undertaking and it has exceeded expectations in difficulty.

That said, we are making great strides in putting everything we need in place. Our partnership has reflected well with providers and earned their trust going forward.

CV: The legal aspect of the project took longer than expected. The non-disclosure agreements of data among all parties took time as well as the development of the surgeon and hospital partnerships.

Q: Are there any challenges you are anticipating going forward?

CV: I think one of the areas we could have challenges on an industry level is our benefit structure. The reimbursement models include incentives for providers for the desired clinical outcomes. Achieving the clinical outcomes may be dependent upon the available services for a member. Physical therapy is a simple example. If we're providing bundled services for a joint replacement, and the member doesn't have the number of physical therapy visits needed to reach the desired outcome, the provider may not receive an incentive payment and the member will not have reached the desired functional level post operatively.

TL: There are a lot of systems configurations Blue Cross Blue Shield has to do. The payment mechanisms that have been in place and that drive our systems are radically different than bundled payments. We have to put a lot in place while maintaining the pay for service engine. Together we are pushing each other toward building the systems for patients, not only for the pilot, but also creating a scalable system for orthopedics so we can add other specialties quickly and methodically in 2013 and beyond.

Q: What are the goals of the bundle payment program?

TL: We want to improve upon quality and clinical outcomes, the patient experience, improved care coordination and decrease the cost of care.

Q: Where do you see the bundled payment program heading in the future?

CV: I think the basic foundation is in place for payment bundles. The expansion to additional specialties and providers may facilitate a change in the focus of the payment bundles such as the setting of care, professional level of the provider needed or selection of medications and devices.

Payment bundles, patient-centered medical homes and value-based benefits are the beginning for us in different provider reimbursement models and the opportunity to improve the quality of care.

TL: I think one of the key building blocks will be for specialty care to be involved in our system going forward. We also have applications for primary care, diabetic care for a year or longstanding chronic care. When you have physicians engaged for multiple specialties, you have the foundation for accountable care organizations for specialty management. We are using the same traditional methodology that allows accountable care to be successful in population health management with a disease-specific focus. ■

Where Orthopedic Surgeons Fit in ACOs: Q&A With Dr. Paul Levin and Dr. Barbara Bergin

One of the most sweeping changes concerning the healthcare system today is accountable care organizations. Hospitals, specialists, primary care physicians and insurance companies are all worried about how they will fit into this new model of care, which values quality over quantity through a pay-for-performance instead of a fee-for-service. However, some orthopedic surgeons and hospitals have decided to push forward with accountable care organizations and are finding the challenges minimal — and even seeing benefits — to participation.

Paul E. Levin, MD, vice chairman of the department of orthopedic surgery at Montefiore Medical Center in New York City, discusses his experience with the hospital's pioneer Medicare ACO and where ACOs are headed in the future. Barbara L. Bergin, MD, an orthopedic surgeon with Texas Orthopedics, Sports & Rehabilitation Associates in Austin, also gives her perspective on accountable care organizations.

Q: What role do orthopedic surgeons play in ACOs?

Dr. Paul Levin: The Montefiore Medical Center accountable care work group identified two diagnoses (acute low back pain and acute chest pain) as two diagnoses with excellent opportunities for both improving care and saving money. I am the chairman of our acute low back pain management group, charged to improve the care of patients with acute low back pain. If you look the management of acute low back pain care in the U.S., it's widely recognized that it's over treated with no benefit to the patient and associated with that is an excessive use of expensive medical services.

We've already embarked on this mission over the past year, even before we were officially an ACO program. The primary focus is on the education of primary care physicians and insuring rapid access to a spine specialist when the primary care provider believes it is warranted. Lectures are delivered at the primary care sites reviewing evidence based guidelines, red flags and the basics of performing an appropriate history and physical examination of the patient with acute low back pain. If you talk to PCPs, they are most excited about gaining a comfort a level in caring for these patients and streamlining the process for orthopedic evaluation.

Essentially what we've established in the pioneer ACO — which is a relatively small portion of our medical center's population — is develop an algorithm of how to approach patients with acute low back pain. It is a variation of widely published guidelines and algorithms based on evidence about treating acute low back pain patients. We are continuing to give lectures at the various primary care sites about the algorithm and how to streamline the process.

If there was a concern by a primary care physician who thought a patient needed urgent orthopedic evolution, we have made ourselves available by EMR flag, email or mobile phone call. Whatever the provider needs to care for their patients we will provide. In the first year, we haven't been contacted in this way, but it gives the primary care physicians comfort knowing they can get help for their patients if something changes.

Dr. Barbara Bergin: They're going to be a necessary part of any ACO. Orthopedics is almost a primary care field of practice. We don't just do surgery. Believe it or not, the majority of our practices are actually centered on the conservative treatment of musculoskeletal disorders and not doing surgery. Although many of our referrals come from primary care physicians, most of our patients are still self referred. Patients know they need to see an orthopedic surgeon and they prefer to get in to see us directly, and today if possible! We're one of the first specialties an ACO, HMO or mul-

tispecialty group is going to seek out for maximum efficiency and control of the patient's medical care.

Q: What are the common concerns for orthopedic surgeons about participating in ACOs?

BB: It's pretty much the same as our concerns about insurance companies, multispecialty groups, hospital practice purchases, HMOs and yes, the government; the loss of our ability to control the care of our own patients and to do what we feel is in the patient's best interest. Accountable care organiz*ation* sounds a lot like health maintenance organiz*ation* and that sounds a lot like capita*tion*. They've all got the '*tion*' part and that ends up sounding a lot like 'care restric*tion*.' Most of us feel that we know what's best for our patients and putting any of that care in the hands of those who do not directly care for them is counterintuitive.

PL: Doctors across the United States are concerned about changes in healthcare. I think everything is up in the air with the political climate. People recognize that things have to change because the healthcare system is costing too much money now. Everyone recognizes that we have to do something to control costs.

The American Academy of Orthopaedic Surgeons plans to be very involved in helping with the transition to ACOs. I know they have initially supported changes in healthcare in the United States, with some reservations, and they plan to be very actively involved in being advocates for appropriate musculoskeletal care for patients.

Q: What challenges are there for orthopedic surgeons participating in ACOs?

PL: The philosophy of ACOs is improved quality and being reimbursed as an institution for providing quality care, not higher quantities of care. Back pain is an ideal diagnosis because if you look at it, providing better quality care saves money and improves outcomes. Ultimately, it is envisioned there would be more primary care physicians who handle most of the patients' common musculoskeletal problems with fewer specialists necessary to take care of patients who require specialty care and operative intervention.

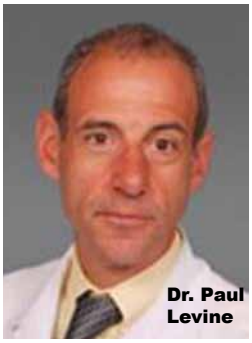
At this point, we are still in our infancy and our surgeons still see a lot of orthopedic patients with acute low back pain who don't need surgery. I don't think we have the numbers yet to say we've been able to decrease the number of patients our orthopedic surgeons see with acute low back pain. There hasn't been a dramatic shift in patient flow at this time, but that will definitely our goal and the goal in successful ACO models.

I am still going around to different primary care sites, and even though there is tremendous interest from the primary care physicians to learn about care for low back pain and manage those patients without sending them to the orthopedist, we haven't seen that full transition yet.

In the future, we will see an additional challenge related to patient satisfaction because common algorithms for acute low back pain to not recommend any imaging be performed when no red flags are identified. Unfortunately, many patients expect to be referred for MRI evaluation because they believe it is necessary to identify what is "really wrong." Patients perceive that we aren't meeting their needs if we don't order the MRI or send them to physical therapy and instead suggest lifestyle changes or other methods for pain relief. When this happens, they will give low patient satisfaction scores. It's going to be an additional challenge to get these things integrated and working together.

Q: How do orthopedic surgeons and practices benefit from ACO participation?

PL: If primary care physicians are comfortable educating and coordinating non-operative care for low back pain patients, orthopedic spine surgeons are able to spend more time in the operating room than in the office with patients who won't need their intervention. We may also see a decrease in unnecessary and costly tests. For example, an article recently published in *Spine* (vol. 37, issue 18) studied Washington state workers compensation patients with low back injuries. They were looking at whether early MRI imaging improved outcomes.


Dr. Paul Levine


Dr. Barbara Bergin

The study found that early MRI was not associated with better outcomes for the patients with acute low back pain and was associated with a longer period of disability. This is something that has been pretty evident to me over the years because MRIs show abnormalities which aren't clinically significant, but they concern the patient and provider if they aren't comfortable understanding the meaning of the MRI. This could keep the patient out of work longer than necessary and delay their recovery.

The MRI costs money, doesn't help in planning the management of the patient's care and may actually make them worse and delay recovery. This makes it abundantly clear that an early MRI should not be a component of the algorithm for the care of the patient with acute low back pain who has no red flags indicating the necessity for early imaging.

BB: I'm a physician. If I were looking at ACO models, I would prefer one managed by my own kind. I would also steer away from ACOs in which my care was overly managed by ancillary personnel. We're the primary care givers. Unfortunately many areas in the U.S. are going to run short on doctors and may be encouraged or even forced to receive care from secondary care providers. Administrative costs, which are necessary to manage these kinds of programs will certainly escalate, eventually consuming a large portion of the already contracting medical dollar.

Q: What do orthopedic surgeons need to look out for to make sure they don't become part of an ACO that would be more harmful than good?

BB: Patients and doctors should look out for ACOs which are not aligned with the patient's best interest. How's that for a loaded statement? ACOs, like HMOs have the potential to be patient care restrictors under the guise of patient care efficiency. Save money by decreasing services. It's that simple. Cost savings, risk sharing and efficiencies are often terms which gloss over the simple reality of care restrictions. This has the potential to put patients and physicians on the wrong sides of the mighty dollar.

We want to analyze the population of an ACO. A predominance of the chronically ill will make it hard for the risk sharers to work efficiently *and* demonstrate best outcomes.

Q: Do you think ACOs will become a more widespread model for orthopedic surgeons in the future?

PL: I personally believe that the ACO model will ultimately benefit both the surgeons and the patients. If the surgeons are seeing the patients who need surgical intervention, it will save time and money. Surgeons should be busy in the OR and if we are able to see the appropriate candidates for surgery, it will improve our practice and improve healthcare for patients.

If you look at the successful healthcare systems in the country — Kaiser, Geisinger, Intermountain Healthcare — these are all facilities that are in one way or another operating in the model where they are assuming risk and providing care, which is really what ACOs do, and better care saves healthcare dollars and improves income for the health careorganization.

BB: I can see a trial period of ACO ascendance, during which time we discover that significant savings aren't realized and outcomes aren't necessarily improved. Physicians will slowly fall off the wagon and return to fee for service, albeit a lower fee for service. But its human nature to prefer getting paid for one's services, even if it's less. Frankly it doesn't sound right to get paid more for doing less. It's unfair to ask physicians to risk share in an aging population of patients with lots of chronic diseases like obesity, diabetes, hypertension and heart disease.

Do we ask the grocer to risk share in the produce department? No. The price I pay for my fresh avocado covers the loss of all those soft browning ones they'll have to throw away tonight. The grocer doesn't pay for them. But I'm used to going to the grocery store where I am assured I'll get that fresh avocado. And our patients are used to receiving the best care possible; when and where they want it, and they also have plenty of access to hungry attorneys. Soon the patients will gravitate to care providers who will practice outside the ACOs, HMOs and hospitals; the concierge provider.

That is unless the government barges in and takes control of the entire industry. That will be a lot easier if most of us are already working for them or for hospitals. ■

11 Key Legal Risk Areas for ASCs

By Scott Becker, JD, Partner, McGuireWoods

There are several different legal issues that face the surgery center industry. This article briefly outlines 11 core legal risk areas.

1. Share Sales. Here, a key issue relates to selling shares at below fair market value in order to obtain or bring in cases. It is also problematic where physicians are offered more or less shares based on the volume or value of their business.

2. Out-of-Network Business with Payors. Increasingly, payors are attempting to bring all kinds of different actions against centers related to out-of-network business. At the same time, out-of-network business remains an important part of the profit component of many surgery centers.

3. Safe Harbors for Redemption. There are strong arguments that it is appropriate to use safe harbors to redeem a physician who is not meeting the safe harbor due to the fact that the center wants to be safe harbor compliant. There are also evolving interesting arguments as to how to use the safe harbors lawfully and whether they are being used for the right purposes legally. Where not used for the right purposes, there is a risk in redeeming physicians.

4 Minimum Case Numbers. Some centers attempt to set high minimum case numbers for physicians to remain owners of the surgery center based on a number of different theories. There remains significant risk that this will not be enforceable and/or that this might be viewed as inappropriately conditioning ownership or referrals. Surgery centers have some risk of being faced with qui tam or false claim cases brought by employees or competitors based on a number of different issues including case requirements or usage requirements.

5. Anesthesiology and Pathology Relationships. Many surgery centers and owners attempt to profit from anesthesiology and pathology relationships. Many of these may be legal. However, the more that these are focused on providing physicians with profits and the physicians are not actively engaged in the work, or supervising the work, and to the extent that this is intended to provide profit in exchange for referrals, the more concerning these relationships can be.

6. HIPAA and Data Breach Issues. Increasingly, centers have to spend money working on or responding to data breach or security breach issues, for example, where certain amounts of patient medical records are inadvertently disclosed or lost.

7. Physician-Owned Distributorships. In many situations, physician-owned distributors can actually save a center or hospital a great deal of money. At the same time, because so much of the business is often based solely on that physician's referrals, there can be the appearance that the physician is being paid for something that is really not his core business and that it is really an excuse to pay him or her money in exchange for cases.

8. Equipment Lease and Lithotripsy Relationships. There are situations where physicians own equipment and then rent it to a surgery center on an annual basis or per click basis. These can be argued to be in exchange for business development as opposed to for actually being the best distributor or renter. The lithotripsy business continues to be almost wholly tied to urologists owning the lithotripters that are used for their procedures.

9. Overnight Stay and Recovery Care Facilities. Increasingly, surgery centers look to handle more complex cases that require some level of recovery care and overnight stay. Here, there is nothing fundamentally wrong with this. However, it is generally not permissible for Medicare patients and many states have limitations on what kind of cases can be done in a surgery center that may require recovery care.

10. Medical Staff Privileges Issues. Increasingly, ASCs face disputes over medical staff and privileges issues as centers and providers get more cautious about medical quality at their facilities. This often can also tie into ownership issues and there can be accusations that medical staff privileges issues are used as a means to pressure a physician as to ownership issues.

11. Co-Management and Relationships Coupled with HOPD Conversions. Increasingly, centers may convert to a hospital outpatient department with the intent to increase reimbursement and then provide co-management responsibility to a physician company. Here, it is critical that the co-management agreement be entered into for reasonable purposes and at fair market value. In essence, that it not an excuse to provide the physicians with funds to continue bringing cases to the center. ■

Why a Physician-Owned Orthopedics Specialty Hospital Can Succeed: Q&A With Rothman Specialty Hospital

By Laura Miller

Rothman Specialty Hospital, based in Bensalem, Pa., is a 65,000-sqaure-foot facility in partnership with the physicians of Rothman Institute. The hospital focuses only on orthopedic and spine cases and includes six fully-equipped operating rooms. It is accredited by The Joint Commission and Medicare.

Here, Rothman Institute Founder Richard Rothman, MD, President Todd Albert, MD, and CEO Mike West are joined by Rothman Specialty Hospital CEO Kelly Doyle and Nueterra Healthcare COO Marc Goff to discuss the benefits, challenges and uniqueness of orthopedic specialty hospitals.

Q: What was your objective in founding Rothman Specialty Hospital?

Dr. Todd Albert: We wanted to create an experience where the patient can get superb surgical and medical care in a very unified way. We are only taking care of musculoskeletal services there, so it is very focused. People have a concierge service and great food service. The outcomes are outstanding and surgeons love working there, so it makes the patient experience better.

Dr. Richard Rothman: This is a center of excellence. The term was coined in 1970 to describe a specialized hospital in England just for joint replacement. The idea was that the hospital only focusing on orthopedics would have better outcomes, lower cost and better patient satisfaction. We have learned the road of excellence is paved when an institute focuses on just one specialty. Now, 40 years later, I'm struck that patients who have a choice of a university and general hospitals invariably comment how much better their experience is at the specialty hospital. Even people in public service say they want to come here because of our focus on musculoskeletal care.

Mike West: For us, the team working together to provide medical care is often the same. In many instances, you don't get that level of consistency at a general hospital. Here surgeons get the same staff all the time. Just as the surgeon gets better with every case they do, so does the staff become better and more efficient.

Q: What makes Rothman Specialty Hospital unique?

Kelly Doyle: I think it's the people who work here. To begin with, the Rothman Institute surgeons have very high expectations of themselves, but that doesn't just stop with the surgeons; everyone on the team must be high-achieving, including nurses, administrators and cleaners. They are very much engaged in the whole management and care processes, from the preoperative examinations to postoperative rehabilitation. Everyone knows the bar is high.

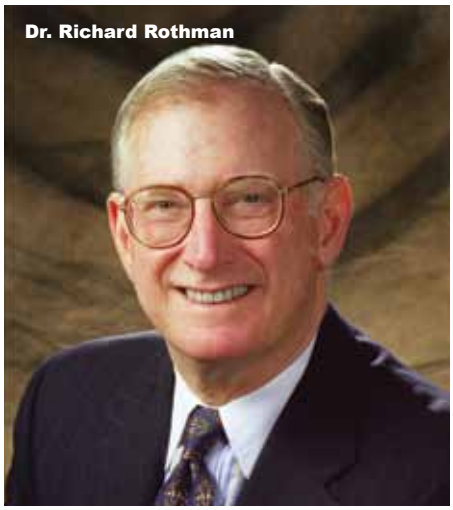
This type of organization isn't a good fit for everyone because a lot of people could just do the bare minimum and get away with it. That just doesn't happen here; the expectations are shared with the employees upfront. Whoever gravitates toward working with Rothman are superstars. Everyone who works here aims to be part of something great and therein lays the difference.

Marc Goff: You see that the group of physicians puts their patients' safety and quality and superior outcomes at the top of their focus consistently each and every day. They truly utilize a team approach to care for their patients. They are intimately involved in patient satisfaction and outcomes. It is a privilege to be part of the group of physicians who wake up every day and think about how they can improve patient care.

Q: What challenges has the hospital faced and how were you able to overcome them?

KD: On our side, the challenge has been that this is the first time anyone in the organization ever opened a hospital. Most people are closing their doors and folding their programs today whereas we are coming in and opening up a hospital. The biggest obstacle was the trust factor; if you were a bigger hospital, you already know the peripheral services there have been running for a long time. Everything here was brand new and the obstacle was to build a team that could offer the same level of services to the surgeons than other places.

We were able to overcome this challenge by employing the right people. Everyone is very engaged with their team and the surgeons. Rothman Institute surgeons aren't the type of people who just show up; they build a routine and get the right people in place. That doesn't happen over night but we are there now and the surgeons are happy.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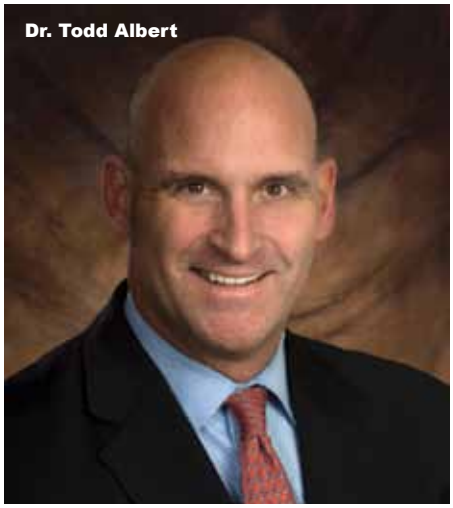
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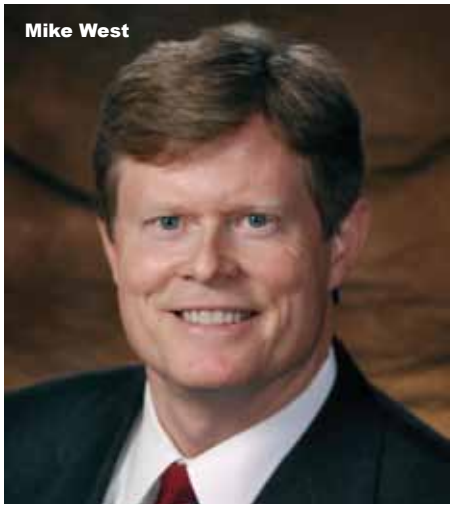

Mike West

TA: One of the biggest challenges has been demography and geography. Our surgeons would rather operate on their patients here, but if the patient is coming from farther away they want to do the procedure closer to home. The hospital is in the far northeast area of Philadelphia, which isn't convenient for everyone.

Another challenge will be ultimately what happens with the entire healthcare world as the insurance market is being closed and insurances are telling patients if they choose to go somewhere else for surgery, they have to pay more out of pocket instead of going to the higher cost place with lower quality. We haven't seen it much yet, but I think it's a future challenge for the hospital.

Q: With the cap on physician-owned hospitals and POH expansions enacted in 2010, where do you see the hospital going in the future?

MW: We only have a limited number of beds and operating rooms; this is one of our challenges because once we hit the maximum we can't grow anymore. There must be some sustainable growth due to cost challenges, but growth will be limited in the future.

Because we don't know where healthcare is going, our strategic plan isn't reliant on that; it's reliant on quality and cost. We are working on a functional outcomes database system and trying to improve our IT integration through business intelligent systems and integrating business and clinical information. We are also monitoring patient satisfaction to see where we can make improvements on that. Regardless of what happens from the regulatory standpoint, if we continue to focus on those things, we should come out on top.

Q: Why can an orthopedics-only hospital like Rothman Specialty Hospital succeed post-reform?

RR: The cost to society is less. We work in a world where we have very expensive high cost technology and the way to lower that cost is to have higher rates of utilization. We have operating equipment that is very expensive but since we do a high volume of procedures, that cost tends to be amortized more quickly.

MW: The other thing that helps us on cost is in a general hospital physicians don't have access to all the costs of the episode of care. We have access so there is transparency. With the cost accounting systems we have, we are looking at ways we can reduce costs without lowering care. We think it will be lower cost and higher quality over time.

TA: A big portion of that is implant cost; you look at staffing and efficiency costs as well. The staff per case basis is different because of efficiency — throughput is higher, so per case cost is lower. Staff is a fixed cost pre- and postoperatively. We look at the variable cost associated with all of these cases, and the physicians look at the costs case by case. We look at the approach and see where there is variation. We think it helps to lower cost from preoperative to postoperative care just by getting the data to physicians.

Q: What are the benefits of a specialty hospital focusing only on orthopedics?

KD: We do so much of it that we get really good at it. I've worked in a lot of different areas in surgery over my career and the key to efficiency and perfection is doing it over and over again. Everyone understands what is taking place, which is the beauty of a specialty hospital.

MG: I think as you're dedicated to orthopedic and spine excellence, and when that is what you are doing every day, your focus isn't diluted with multiple specialties. Staff knows the key terms and key times and understands the delivery of care because they are focused on orthopedic patients each and every day.

MW: We do approximately 9,000 joint replacements system-wide. They have seen every aspect of this and done research on the best approach. To take that into an orthopedics-only hospital makes it even better.

TA: If you do a huge volume of things you've seen almost every weird thing that can happen and you're prepared for it; that makes a big difference. Everyone does the same thing over and over again — it's very comfortable for the surgeon to have a well-versed nursing staff and anesthesiologists who know all the subtleties to orthopedics cases.

Q: What is your strategic plan for the future?

KD: I hope to have increased volume. I would like to see every bed filled and to run out of space; that would be a good problem to have. We also want to maintain our high levels of patient satisfaction and quality. To be busy and maintain our patient satisfaction and quality is my goal. In the future, we hope people will be visiting the hospital from all over the place to see how it's done.

MG: From our perspective, the plan is to listen to our physicians and partners. Rothman Institute has a very aggressive approach and they are very proactive in their approach to healthcare and patient care. They are always looking to the future.

TA: If the government stays out of our way, we would expand the hospital and make other Rothman Specialty Hospitals in other locations more convenient for patients. We have soon to be 20 clinics in the tri-state area. We would similarly have another hospital or two hospitals in the demography to try to make it more easily accessible for patients, so they can have a higher level of quality care. Today, we are prevented from doing that because of the laws. ■

7 Challenges & Innovations on the Horizon for Orthopedic Technology

By Heather Linder

Steven F. Harwin, MD, is the chief of adult reconstructive surgery of the hip and knee at Beth Israel Medical Center in New York City. During his more than 30-year career, he has invented, designed and patented several orthopedic devices. He is a consultant design surgeon for several implant systems including the Triathlon Total Knee Arthroplasty system and hip replacements including the Accolade and Trident system, MDM dual mobility cup and the Restoration Modular Revision prosthesis.

Dr. Harwin shares his insight on the future of orthopedic innovation, as well as the challenges orthopedic designers and surgeons will face as technology advances.

Challenges:

1. Solving present device problems. With improved device innovation come challenges for developers to keep up with demand and to avoid redundancy. According to Dr. Harwin, the desire to develop a new product or device can lead researchers to reinventing the wheel. Developers should focus on fixing the problems with existing devices rather than creating new products simply for the sake of releasing a new device.

"We want to solve certain problems," he says. "We don't want to create something that is a solution to a non-problem. We can sit back and say, 'I'm going to design a better screw driver because it looks better and turns faster,' but that's not innovative. That's something you can put out there but it won't make a difference in anyone's life."

Dr. Harwin believes the next problem to be solved in the world of joint replacement is to produce a fully normal joint without any of the drawbacks that even the most advanced implants have today.

2. Creating products with no existing market. The orthopedic device market is more competitive than ever as the demand continues to grow, and companies need to have an edge in order to be successful. They need to find different ways of dealing with the changing marketplace, Dr. Harwin says, including thinking outside of the current demographics.

The next truly innovative product could be for a market which doesn't even exist yet but which anticipates the needs that will eventually come up.

"You have to look at things from a market perspective that the old way of doing things to just make a product cheaper and deliver it faster isn't going to cut it in today's market because every company is doing the same thing," he says.

3. Learning from past industry mistakes. While orthopedic device developers and surgeons are always looking to improve what they do, they have to remember the mistakes from the past and learn from them. "Tinkering with proven technology can be disastrous," Dr. Harwin says. "You have to be very careful about changing things that work. You can make minor changes and the law of unintended consequences kicks in. That's what metal-on-metal was. It sounded like a great idea, and nobody figured there would be allergic reactions or metal ion deposits."

Some new technology sounds promising, he says, but the outcomes must be as good or better without adverse effects. For instance, there is new technology of installing implants that requires special mapping MRIs to give the device a more accurate fit. It does add some extra cost, but it will give us better outcomes in the future.

"You have to look at these things 20 years down the line," he says. "I don't want to be the first one jumping on the bandwagon, but I don't want to be the last one either."

Innovations:

4. Improved implant materials. As life expectancies climb, people expect to not only live longer, but to also live more active and productive lives. Joint replacement implants will need to meet these expectations by granting patients full mobility and durability.

Older technology, such as those implanted with cement or weaker plastic bearings, presents several challenges. Cement breaks down, crumbles and loosens after repeated impact. Bearing plastic can not only wear out, but also cause joint inflammation and bone problems. These technologies will begin to go by the wayside as more reliable methods take over the market.

"We've made great strides in both hip and knee implants," Dr. Harwin says. "In hip replacements, we have developed technology where cement is not necessary. Implants made out of titanium with a foam metal surface imitate the properties of bone and is very well tolerated."

Titanium implants, coupled with more advanced and durable plastic, will eliminate the loosening patients used to endure by allowing the bone to grow into the implant, providing biological fixation.

Dr. Steven Harwin

"We can safely say we can eliminate the cemented knee, as well," he says. "We use very strong plastic. It's very hopeful for the baby boomers coming of age. Their knees are wearing out and their hips are wearing out."

5. Knee implants that mimic the body's real motion. Dr. Harwin helped create the Triathlon Total Knee Arthroplasty system, also known as the GetAroundKnee, which more closely mimics the motion of a natural knee than previous devices. According to Dr. Harwin, nearly one million of these knees have already been implanted.

Now he and the design team are about one year away from launching a new knee replacement to build on the success of the Triathlon knee and incorporate even greater medical advancements. However, Dr. Harwin says he and his team always keep future implant costs in mind when developing their products.

"When we started this project, we committed to the principle than when we bring this knee to the market, it will not cost any more than the premium knee we have on the market now," he says.

6. Dual mobility hip implants. Many of the most recent hip implants featured a metal-on-metal design that proved problematic for many patients because of wear and biological reactions. Dr. Harwin, in his consulting role at Stryker Orthopaedics, worked to solve the metal-on-metal problem with the development of the MDM X3, a modular dual mobility hip system that uses a metal or ceramic ball that moves inside a larger, stronger plastic ball. The plastic ball in turn moves within a smooth metal shell.

"It has the properties of the large head without the problems of metal-on-metal," he says. "It's my hip of choice. It's good for active baby boomers."

7. Blood conservation and management. The future of joint replacement is bloodless, Dr. Harwin says, meaning patients will no longer require blood transfusions. As the director of the Total Joint Replacement Bloodless Surgery Program at Beth Israel Medical Center, he's developed a minimally invasive technique to do hip and knee surgeries without the need for blood transfusions.

"A lot of people want this because of problems with blood transfusions," he says. "We are making surgery safer. We can use local epidural or spinal anesthesia instead of a general anesthetic, so patients can breathe on their own with a faster recovery. It's often a game changer and a life changer with less than an hour-long surgery." ■

7 Biggest Factors Impacting Spine Research & Innovation

By Laura Miller

There are several factors making an impact on spine research and innovation today, with some posing challenges while others offer opportunities for growth and development.

"With change, there is opportunity, but don't try to stick to the old ways of doing things because we have to change," says Stephen Hochschuler, MD, co-founder of Texas Back Institute in Plano. He is also a founding board member of the Spinal Arthroplasty Society (now known as International Society for the Advancement of Spine Surgery) and chairman of Texas Back Institute Holdings, Inc. "You've got to look at the old models and new models to see that the pendulum swings one way and understand that it will come back. You don't know whether it will be five or 10 years, but you have to consider what risks you are willing to take in the meantime."

Dr. Hochschuler discusses the biggest factors making an impact on spine research and innovation today.

1. Stricter FDA regulations and policies. The Food and Drug Administration is rolling out new regulations for 510(k) medical device clearance and investigational device exemption trials, which will make it more strenuous for device companies to study and achieve clearance for new products. "The future of spine research is going to be tremendously impacted by what the FDA decides is its role," says Dr. Hochschuler. "They have created tremendous tumult in the industry."

New regulations require more data on new devices, which means it will take companies longer to achieve the desired results. The extra time will also cost companies more money and, in the end, won't guarantee clearance. As a result, many companies and innovators are taking their ideas to Europe first, achieving the CE Mark of approval and using that data as a springboard for the more rigorous FDA clearance.

"All of the big boys in the industry don't want to do anything that requires a 510(k)," says Dr. Hochschuler. "They will buy something after it's done being tested, but they don't want to see an IDE. They will take their products to Europe first because it's easier; it takes about two years longer and triple the cost to achieve approval in the U.S. That has put a real pinch on spine development."

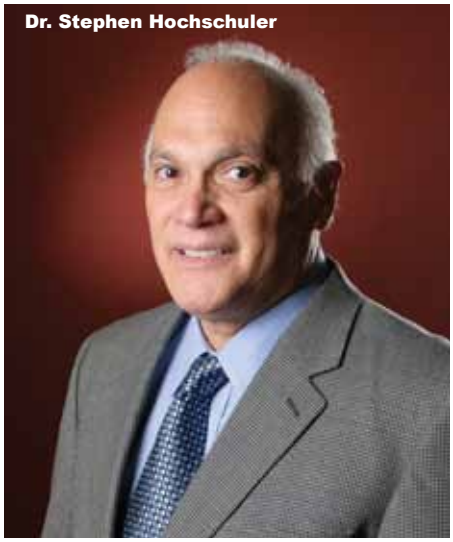
2. Funding for spine projects is disappearing. While there was never a great deal of federal money available for spine research and innovation, now the private funds and venture capital are vanishing as well. "At least 50 percent of the venture capital has disappeared," says Dr. Hochschuler. "In the past, you could depend on a minimum of three to five times return on your money in anywhere from three to five years. Now, it will take at least six to 11 years and your return on investment is completely destroyed."

By the time surgeons and investors realize the return on their investment, inflation and other economic factors will likely make it much less than it would have been in the past. "The money available is decreasing and the FDA is totally unpredictable," says Dr. Hochschuler. "That's another reason why people are beginning to realize they can do research and innovation in Europe more efficiently."

3. Fewer start up companies exist today. There are fewer start up companies today than there were in the past for medical and spinal devices, and fewer opportunities for larger companies to purchase those start-ups.

"In the past, you could come up with a good idea and anyone could back you because spine was a hot field," says Dr. Hochschuler. "You could make a lot of money quickly with spine, whereas other markets like cardiology were down. Now it has switched and cardiology is warm while spine is completely cold."

Regulatory pressures on device companies have forced them to tighten their belts and a lack of funding for new ventures has stymied much of what was considered the booming spinal innovation field of the past several years.


Dr. Stephen Hochschuler

4. Reimbursement issues persist despite proven effectiveness of spine surgery. Spine surgeons, along with many other medical specialists, are experiencing reimbursement difficulties. Payors are creating guidelines for which conditions to cover, and not covering surgery in some cases where surgeons feel their patients would benefit from that type of intervention. Despite studies showing surgery can be beneficial for patients in certain situations over conservative care, surgeons are still struggling to achieve coverage.

"North American Spine Society used to represent the surgeons, but now they represent everyone in spine," says Dr. Hochschuler. "For reimbursement, payors lump all different spine specialists together — including spine surgeons, physical medicine, rehabilitation specialists, pain management physicians and interventional radiologists — and black balled spine surgery with new restrictions on what surgeries could be done and what would be paid for."

The International Society for the Advancement of Spine Surgeons, an organization dedicated to spine surgeons only, has worked on behalf of the surgeon members to promote studies

showing the effectiveness of surgical intervention, says Dr. Hochschuler. "ISASS differentiates out numbers from all of spine and shows if surgery is done for the right reasons, there is a cost reduction," he says. "When patients have surgery sooner, there are fewer injections, reduced pain medicine and a quicker return to work."

5. Cost effectiveness of spine intervention. Today's healthcare environment promotes cost-effective treatment, which means payors and patients are going to examine whether the cost of surgery is worth the potential outcomes. If the market doesn't support spine surgery as cost-effective, then it will be difficult to find support for spine surgery research and innovation.

"It's going to be difficult to separate out what is cost effective and what isn't with spine surgery and pain management," says Dr. Hochschuler. "From the pain management perspective, our practice has a three-injection max, but that has dissipated in the spine world. Reimbursements are going down and implant costs are declining."

In some cases, it will be more cost effective for interventional pain management physicians to treat patients with new techniques and technology on the market today.

"The model for case is going to change and you will have patients and procedures that cross over between specialists," says Dr. Hochschuler. "Cardiovascular surgeons used to deal with all the patients, and now almost everything is done by interventional cardiologists; smart guys learn to work together. In spine, you are going to have other physicians doing injections and other procedures, so don't be threatened by it."

6. Disruptive device company business models will overhaul the industry. As the healthcare environment changes, so too does the business model for providers and device companies. Change is difficult, especially when it comes to distribution, but it will be necessary for companies to remain competitive in the future.

"If you look at a few corollaries, NetFlix, Amazon and iTunes, all three companies are downstream companies and they all cut out the middle man," says Dr. Hochschuler. "When I was a kid, we had music stores, but those are almost nonexistent now. There are very few movie rental stores and books stores are few and far between. These companies took away an area that might have been pleasant, but they made the whole system more efficient. In spine, the middle man is the 12 to 37 percent cost of the implant and that's going to change."

Dr. Hochschuler suggests device companies dispose of the present distribution model in favor of a more efficient and cost-effective system. "Big companies can't change their model overnight, but if they don't they'll have trouble," says Dr. Hochschuler. "With change there is opportunity, but don't try to stick to the old ways of doing things because we have to change. Looking downstream means you have to look outside the box and that becomes key."

7. Downstream innovation still possible in spine. While some of the traditional ideas about research and innovation are become less possible by the day, downstream ideas and techniques are already finding a spot within the field. Innovators in spine still have opportunities for downstream innovation in:

- Image guidance and robotics
- Biologics beyond bone morphogenic proteins
- Nano and microelectronic medical systems
- Telemedicine

"Those kinds of downstream developments in spine are going to lower the cost of care and make it more efficient," says Dr. Hochschuler. "We need to get the right biologics and regenerative medicine in place and then we can satisfy physicians, lower the cost and increase survival rates for patients. There are tremendous downstream opportunities; you just have to figure out where the new rules are and build a better mouse trap." ■

5 Expectations for the Minimally Invasive Spine Market

By Heather Linder

Thus far minimally invasive spinal procedures have promised better results for patients and healthcare providers. Two spine device industry experts take a look at the future of minimally invasive markets and technology. Eric Major is the president and CEO of K2M in Leesburg, Va., and Chad Neely is the CEO of Austin, Texas-based Wenzel Spine.

Here are five of Mr. Major and Mr. Neely's expectations for the minimally invasive spine market.

1. Number of cases will increase. Minimally invasive procedures are on the rise worldwide, Mr. Major says. Additionally, the aging patient population continues to grow, contributing to the global demand for spine surgeries. The demand for minimally invasive procedures will increase because patients like the promise of shorter hospital stays and faster recovery times.

"The aging patient population is demanding more products to treat spinal pathology," he says. "Because of the increase in volume across the board, we need more spinal technologies and a real commitment from top spine companies for outcomes based on research."

While minimally invasive spine has become a popular buzz word, the definition of minimally invasive remains up for debate. Mr. Major says researchers and surgeons alike should be able to agree that minimally invasive means less disruption of soft tissues and minimized blood loss, even if the margins are not definitive.

His company is largely focusing on developing minimally invasive tools, and he's confident the research will back up the investment many surgeons are making.

"I believe we'll be able to show through clinical research a good indication for minimally invasive procedures," he says. "We will see the trend of more and more pathologies treated through a minimally invasive approach."

2. More approaches will be enabled. More spine devices will be entering the market to give surgeons the utmost flexibility in treating patients. K2M strives to give surgeons the broadest perspective in the operating room, something that has been a drawback for minimally invasive technology in the past.

The lateral approach to spine surgery has gained popularity, but Mr. Major says spine device producers will be developing devices for a myriad approaches and solutions to accommodate surgeons. He expects to see diagnoses driving procedures rather than devices.

"Each surgeon treats pathology differently, depending on the condition of the patient," he says. "Companies need to have a broad mini-

mally invasive portfolio and need to provide an offering for multiple approaches. They need to give physicians enough options so that the pathology will drive the approach or technology they use."

However, expect lateral devices to stick around. Lateral procedures have reached a point in which surgeons can now know what patients and pathologies will work best for the technique.

3. More procedures will move to ASCs. Federal healthcare reform is putting pressure on healthcare systems to find less expensive ways of rendering services. Ambulatory surgery centers have proven to be more cost-effective atmospheres for certain surgical procedures, and more minimally invasive spine procedures will move into ASCs for both economical and clinical reasons, Mr. Neely says.

"In ASCs you have all the incentives correctly aligned," he says. "Surgeons are incented to use less invasive approaches and not over-instrument a patient for prospective reimbursements. The ASC model incentivizes surgeons to use the least invasive methods possible, while still achieving good long-term clinical results for the patient. This is economically beneficial to the patient, the payor and the surgeon."

Mr. Neely predicts lumbar fusions will move to ASCs in the near future, similar to the transition seen in total joint procedure migration to ASCs. His company has technology to make lumbar fusions feasible for surgery centers. Currently, lumbar fusions can be risky, invasive procedures with a great risk of complications, especially in an outpatient setting. While ASCs were quick to adopt simpler procedures such as discectomies or decompressions, surgeons in the past were skeptical of adopting fusion surgeries.

Minimally invasive biologics may also be moving into ASCs. New technologies are close to commercialization, Mr. Neely says, which will open up more types of outpatient procedures. These procedures include injectable non-instrumented intervention and disc injections, including stem cells and biologic products.

4. Standalone technology will become more prevalent. As technology and innovation in the minimally invasive spine market increase, more standalone devices will be become the standard for some procedures, including lumbar fusion.

Wenzel Spine received FDA clearance for a standalone, expandable, interbody device to give surgeons the ability to perform unilateral TLIF procedures with one device and zero impaction, Mr. Neely says. "We are eliminating the need for pedicle screws, rods and supplemental fixation," he says.

His company is waiting to gain clearance on a similar device for cervical procedures.

Eliminating supplemental supplies can reduce costs for ASCs and provide value to payors, but it can also help patients recover more quickly and eliminate complications. "One of the biggest postoperative complications in cervical procedures is swallowing problems caused by anterior plates and screws [which aren't necessary in standalone procedures]," he says.

5. Some reimbursement rates will increase. Spine became a popular specialty for its high reimbursement rates. Though reimbursement rates may drop as the frequency of procedures rises, both Mr. Neely and Mr. Major expect reimbursement rates for minimally invasive procedures to stay beneficial for healthcare systems.

This higher list price on minimally invasive procedures may drive reimbursements conditionally for some payors, Mr. Major says. New devices and techniques must be cost-effective and yield better outcomes in the short and long term.

"In some cases we will get higher reimbursement rates if we can continue to improve fast recovery time and faster operating room time," he says. Payors will likely share the savings from shorter hospital stays and operating expenses by initially providing higher reimbursement for physician fees to surgeons who perform minimally invasive procedures.

Mr. Neely also expects payors to see an added benefit of minimally invasive spinal procedures being performed in ASCs. "A spine surgeon in an ASC can perform a fusion procedure for 40 percent or less than the cost of an inpatient facility and deliver better clinical outcomes," he says. "When you have that much of a value proposition to deliver to payors, they are always going to stand up and look at that." ■


Chad Neely


Eric Major

Pressing Issues in Interventional Pain Management Advocacy: Q&A With Dr. Scott Glaser of ASIPP


Dr. Scott Glaser

By Heather Linder

Scott Glaser, MD, is a director on the national board of the American Society of Interventional Pain Physicians, where he has also served as vice president. He is heavily involved with the group's lobbying and advocacy efforts for the practice of interventional pain management, and here he discusses the field's most pressing issues and problems.

Q: What has been the focus of ASIPP's advocacy efforts this year?

Dr. Scott Glaser: The main focus of our legal efforts this year has been fighting recent actions by [the Centers for Medicare & Medicaid] that are classic bureaucratic decisions made in a vacuum without knowledge of consequences. CMS is stating that we need to use a single dose vial for each patient of all medications we inject, including steroids, contrast, and local anesthesia. They are doing this based on a few anecdotal reports of infections following injections.

There is no science behind this. It is an inappropriate, over-reaching governmental response to a problem. In each of the anecdotal cases, there was evidence that appropriate sterile technique was not followed. The complications were terrible, but there is no evidence that using single dose vials would have prevented those cases. Also, there is no supportive scientific evidence that using a single dose vial will prevent infection. It is just not in the literature. In the anecdotal cases that have led to this recommendation, infections are just as likely to have occurred had single dose vials been utilized.

Lastly, there is no evidence that single dose vials which are used in multiple patients are a cause of infection, if you use the proper infection control. It is really an insult to physicians and nurses who have been performing these procedures for years using safe technique.

Q: What problems could result from this regulation?

SG: This practice of using only single dose vials for each patient will lead to a shortage of drugs that are already in short supply. It will lead to incredible waste. The contrast is bio hazardous and more of it will be thrown away. The greatest consequence will be a reduction in access to care secondary to the cost of supplies. The estimated cost of implementing this will be each procedure costs $80 more, and that is a huge number. This will lead many practices to stop performing these procedures and many ASCs and hospital outpatient departments to disallow them thereby reducing access to care.

Q: What are you and ASIPP doing to fight the regulation?

SG: We are educating our legislators. Many have already written letters or signed on to letters to CMS stating this is a bureaucratic error where they don't understand the whole situation. [Prior to making this decision] CMS consulted an infectious disease group and some other parties but they didn't consult people actually doing the procedures. Hopefully that decision will be overturned.

Q: What are other pressing issues in the pain management field?

SG: Another significant issue for us right now deals with [certified registered nurse anesthetists]. CMS in the Affordable Care Act is proposing a policy where CRNAs would be reimbursed and allowed to perform interventional pain management procedures. We strongly oppose this. The practice of interventional pain management is the practice of medicine and should only be practiced by appropriately trained physicians. The training for a CRNA does not include any training in pain management. Their schooling consists of providing anesthesia IV sedation for surgical and other procedures.

There is no formal training of any kind regarding the diagnosis and treatment of patients suffering chronic pain. There is also no formal training regarding the provision of interventional procedures for chronic pain using diagnostic and therapeutic image guided interventional techniques, which have significant risks that are materially different than the risks of procedures used to provide anesthesia in the OR. Even in well trained and experienced hands severe complications continue to occur because of the nature of this field.

Q: What do you think is the reason for this ruling?

SG: They are basing the reasoning on two flawed ideas or assumptions. They think it will save money because nurses are treating patients, not doctors, when actually it will have the opposite effect. If CRNAs will be allowed to bill, they will bill the same amount physicians do for consults and procedures. There is no special fee schedule for nurses. With more procedures on more patients that will increase the cost of care. It's also based on the flawed assumption that there is a lack of access to care for pain management procedures. We have no evidence of that. In Illinois they've done studies that show the farthest drive is 75 miles for access to pain management services provided by a physician.

Lastly, the treatment of chronic pain with opioids and other controlled substance by inadequately trained doctors has led to an epidemic of prescription drug abuse and accidental poisoning. The training of CRNAs does not include training in this complex area and will expose chronic pain patients to more providers without the appropriate knowledge and training to treat them with the powerful medications. This will further exacerbate this already tragic problem.

Q: What problems do you see with the practice?

SG: This practice raises several concerns. One is public safety. These procedures are minimally invasive but they are maximally dangerous. The number of people becoming quadriplegic or dying is increasing even when they are performed by doctors who are specifically trained in interventional pain management. In other words, if these complications may occur to a well trained doctor, then one can only imagine the increased incidence with inadequately trained CRNAs. It is truly a frightening concept to those of us practicing and board certified in interventional pain management.

Two, it's a fraud and abuse issue. [Pain management] issues are already tainted because they are over utilized by some members of the medical profession. Fraud will only get worse when more providers are reimbursed for these procedures. This is especially true when those providers are untrained and don't have the knowledge to perform the procedures in the

appropriate algorithmic fashion get the maximum benefit. Lastly, the treatment of pain with opioids by physicians not trained appropriately has led to an epidemic of prescription drug abuse and accidental poisoning. This phenomenon will only be exacerbated by allowing another group of providers without appropriate training to provide and be reimbursed for the treatment of chronic pain.

Q: Have you made any progress in contesting the decision?

SG: The provision of these services will be decided on a state-by-state basis. There was a court case in Louisiana in which ASIPP — and specifically current president Dr. Frank Falco and CEO Dr. Laxmaiah Manchikanti — was intimately involved and gave direct testimony which set an important precedent. The judge declared after long trial that CRNAs could not practice pain management and that interventional pain management was the practice of medicine. In addition, ASIPP members across the country are actively involved in educating their legislators about this issue.

Q: What other advocacy actions are you currently taking?

SG: The biggest thing was the ASIPP yearly meeting in June. After our scientific meeting, we had visits arranged with legislators from every state represented by interventional pain management physician. This issue was one of the specific issues we discussed with the legislators and their aides. We also have a letter writing campaign for many of our offices. We and our staff send letters to legislators, and we instruct our patients about these issues and have patients send letters as well. We support our leadership at ASIPP who are talking to legislators more often.

The fact is, when it comes to some of these issues, we can't go straight to CMS; we have to inform a legislator who then brings it to CMS' attention to get it changed. Importantly, more and more legislators are being elected to Congress who have medical backgrounds. The legislators and the aides who are the most helpful, who really get it and understand the gravity of the issues, and who take an interest in pain management, have family members or friends who have required the services of a pain management doctor.

They realize being a physician and being in pain management is extremely difficult these days. They understand the importance of training in the provision of these services, and they are grateful for what interventional pain management physicians do. ■

56 Sports Medicine Practices to Know
(continued from page 1)

Access Sport Medicine & Orthopaedic Center (Exeter, N.H.). Access Sports Medicine & Orthopaedics specializes in the prevention and treatment of disorders, injuries and illnesses of the bones, muscles and joints. Access also recently opened a walk-in injury clinic to treat urgent care illnesses and injuries. David Davis, MD, is one of Access' surgeons, and he won the Aircast Award for Basic Science at the 2012 American Orthopaedic Society for Sports Medicine annual meeting in July.

Advanced Orthopedics and Sports Medicine Institute (Monmouth County, N.J.). Advanced Orthopedics was founded in 2007 with the merger of two physician practices, Western Monmouth Orthopedic Associates and New Jersey Orthopedic Associates. One of the practicing physicians is orthopedic surgeon Michael Greller, MD, who has served as the president of the Advanced Orthopedic and Sports Medicine Institute. In 2010, Dr. Greller and Alan Nasar, MD, of AOSMI, performed one of the first custom-fit knee replacement surgeries in the northeast United States.

Andrews Institute for Orthopaedics & Sports Medicine (Gulf Breeze, Fla.). James Andrews, MD, founded The Andrews Institute for Orthopaedics & Sports Medicine. He is the senior orthopedic consultant for the Washington Redskins, co-medical director of the Ladies Professional Golf Association and former president of the American Orthopaedic Society for Sports Medicine. The facility contains a rehabilitation complex, an ambulatory surgery center, diagnostic imaging and MRI, sports medicine outreach and the Andrews Research & Education Institute.

Austin (Texas) Sports Medicine. Austin Sports Medicine specializes in comprehensive care for sports-related injuries. One of Austin's surgeons, Kelly Cunningham, MD, focuses on shoulder and knee injuries and is the traveling team physician for the U.S. men's alpine ski team. Jake Manual, MD, is specially trained in minimally invasive surgery, unicompartmental knee replacement and computer navigation.

Beacon Orthopaedics & Sports Medicine (Sharonville, Ohio). Beacon Orthopaedics & Sports Medicine was founded in 1988 as a multiphysician orthopedic practice. Robert Burger, MD, practices at Beacon and is also the associate team physician for the Cincinnati Reds. Beacon's 15 affiliated physicians assist patients with concussion testing, percutaneous needle tenotomy, platelet rich plasma procedures, bio works, chiropractic care, physical therapy and more.

Campbell Clinic (Memphis, Tenn.). The Campbell Clinic began in 1909 by Willis Campbell, MD, as his private practice. Dr. Campbell co-founded the American Academy of Orthopaedic Surgeons and served as its first president. Today the Campbell Clinic has more than 40 physicians. Frederick Azar, MD, was recently elected second vice-president of AAOS and is the team physician for the Memphis Grizzlies.

The Carrell Clinic (Dallas). The Carrell Clinic was named in honor of W.B. Carrell, MD, who was the first chief of orthopedic surgery for Baylor University and a former vice president of the American Academy or Orthopaedic Surgeons. In 2005 The Carrel Clinic opened at its present location, which features a surgical hospital and imaging center. Wayne Burkhead, MD, is shoulder surgeon consultant for the Dallas Cowboys.

Chicago Orthopaedics & Sports Medicine. Chicago Orthopaedics & Sports Medicine was founded in 1965 and provides orthopedic treatments, including using arthroscopic and minimally invasive technology. David Guelich, MD, is one of COSM's orthopedic surgeons, and he also serves as an orthopedic consultant for Major League Baseball and the National Football League.

Coastal Orthopaedics & Sports Medicine | Pain Management (Bradenton, Fla.). Coastal Orthopaedics provides care in orthopedics, sports medicine and pain management and consists of three offices and two surgery centers. Daniel Lamar, MD, practices at Coastal Orthopaedics and serves as the sports medicine physician to the Tampa Bay Buccaneers and Pittsburgh Pirates.

D1 Sports Medicine (Birmingham, Ala.). Geoffrey Connor, MD, founded D1 Sports Medicine in August 2010 and serves as its medical director. Dr. Connor's business model incorporates a boutique-style sports medicine center to the traditional orthopedic surgery practice. His practice includes several non-medical services, such as nutritional analysis, cholesterol monitoring, C-reactive protein monitoring and body mass indexes.

DISC Sports & Spine Center (Marina del Rey, Calif.). DISC Sports & Spine Center was established in 2006. DISC's physicians work with physical medicine, performance psychology, brain mapping and training, soft tissue, chiropractic, MedX spine rehabilitation, acupuncture, traditional eastern medicine and nutrition services. DISC is one of the official medical service providers of the U.S. Olympic Team and an official sports and spine center of the Los Angeles Kings and Red Bull America athletes.

DMC Sports Medicine (Warren, Mich.). DMC Sports Medicine is a hospital member of the Detroit Medical Center and features a sports medicine complex in Warren and a surgery hospital in Madison Heights. Henry Goitz, MD, treats patients at DMC and provides care for the Detroit Red Wings, Pistons and Tigers.

Elite Sports Medicine and Orthopaedic Center (Nashville, Tenn.). Elite Sports Medicine provides orthopedic and sports medicine care from surgeons all fellowship-trained in their subspecialties. Burton Elrod, MD, is the head team physician for the Tennessee Titans, and Jeffrey Willers, MD, is the foot and ankle consultant for the Titans. Elite also provides physical therapy and diagnostic imaging.

Fondren Orthopedic Group (Houston). The Fondren Orthopedic Group was formed as a partnership in 1973. It is made up of more than 40 surgeons practicing in 10 orthopedic subspecialties, including sports medicine. Gregory Stocks, MD, of Fondren holds a patent for a hip replacement prosthesis designed to improve the longevity of the artificial hip.

Illinois Bone & Joint Institute (Morton Grove, Ill.). Illinois Bone & Joint Institute includes more than 90 physicians in 20-plus locations. The physicians have provided care to professional athletes and serve as team physicians for several local athletic teams. Craig Westin, MD, is the medical director for the Chicago Joffrey Ballet and a team physician with the U.S. Figure Skating Team.

Jacksonville (Fla.) Orthopaedic Institute. Jacksonville Orthopaedic Institute's 31 specialty-trained orthopedic surgeons treat patients at six locations and work with diagnosis through rehabilitation. Steven Crenshaw, MD, of JOI is the chairman of the department of orthopedic surgery at Baptist Health Downtown and the team physician for the Jacksonville Jaguars.

Kerlan-Jobe Orthopaedic Clinic (Los Angeles). Kerlan-Jobe Orthopaedic Clinic is named for Robert Kerlan, MD, who started the practice in 1950 and was named team physician for the 1958 Dodgers, and Frank Jobe, MD, who developed the modern ulnar collateral ligament repair procedure. Kerlan-Jobe orthopedists are team physicians and consultants for the Los Angeles Lakers, Dodgers, Kings, Angels, Sparks, Anaheim Mighty Ducks, PGA Tour and Senior PGA Tour.

KSF Orthopaedic Center (Houston). KSF Orthopaedic has been treating orthopedic injuries and diseases for nearly 40 years. It was started by Andrew Kant, MD, who is the current president of the Texas Orthopaedic Association. The practice has expanded to two locations with 10 physicians serving multiple subspecialties.

Lemak Sports Medicine and Orthopedics (Birmingham, Ala.). Founded by Lawrence Lemak, MD, and David Lemak, MD, Lemak Sports Medicine and Orthopedics has grown to include locations in 10 different cities. As the founder and chairman of the Alabama Sports Foundation, Dr. Lawrence Lemak helped bring the 1996 Olympic Soccer Games to Birmingham. He also founded the National Center for Sports Safety and serves as a member of the NFL Youth Safety Development Team.

Methodist Sports Medicine/The Orthopedic Specialists (Indianapolis). Methodist Sports Medicine/The Orthopedic Specialists consists of three locations in the Indianapolis area. In 2010 Methodist's Carmel location expanded to a 29,000-square-foot facility and now includes a walk-in clinic. The 18 practicing physicians serve as team physicians for the Indianapolis Colts and several college athletic teams.

Michigan Orthopaedic Institute (Southfield). Michigan Orthopaedic Institute provides orthopedic and sports medicine care at three locations in and around Southfield, and the Southfield location also provides MRIs, pain management and physical therapy. The 15 fellowship-trained physicians are all associated with William Beaumont Hospital in Royal Oak.

Midwest Orthopaedics at Rush (Chicago). Midwest Orthopaedics at Rush's physicians serve as the team physicians for the Chicago Bulls, White Sox, Mustangs, Chaos, Red Stars and Force. Brian Cole, MD, who is the head team physician for the Chicago Bulls, also serves as head of the Cartilage Restoration Center at Rush. Anthony Romeo, MD, director of shoulder and elbow at Rush University Medical Center, developed a minimally invasive total shoulder replacement procedure.

The National Sports Medicine Institute (Lansdowne, Va.). The National Sports Medicine Institute provides a full range of orthopedic and sports medicine procedures, evaluations and treatments. Timothy Johnson, MD, is one of the practice's physicians, and he has been the team physician for the Baltimore Orioles since 2003.

Nebraska Orthopaedic and Sports Medicine (Lincoln). Nebraska Orthopaedic is made up of 15 board-certified surgeons, many of whom are fellowship-trained in orthopedic subspecialties. One of NOSM's physicians, Patrick Clare, MD, is the chief orthopedic surgeon and team physician for the Nebraska Huskers. The practice has one main office, as well as 10 nearby outreach offices in local hospitals

Northwest Orthopedics & Sports Medicine (Kalispell, Mont.). Northwest Orthopedics is an orthopedic practice affiliated with Kalispell Regional Healthcare. Northwest Orthopedics' surgeons also provide emergency orthopedic care, trauma service and hospital inpatient care when necessary. One of the sports medicine surgeons, Karen Perser, MD, is trained in minimally invasive surgery of the hip, shoulder and knee.

Ohio Valley Orthopedics and Sports Medicine (Cincinnati). Ohio Valley Orthopedics and Sports Medicine was acquired by TriHealth system at the beginning of August. The physicians see patients at three offices in areas surrounding Cincinnati. The surgeons focus on general orthopedics and sports medicine.

OrthoCarolina (Charlotte, N.C.). OrthoCarolina is comprised of 16 orthopedic clinics in the greater Charlotte area. Patrick Connor, MD, of OrthoCarolina, serves as the head team physician for the Carolina Panthers and the Charlotte Knights. Thomas Fehring, MD, is the vice president of the American Association of Hip and Knee Surgeons and a founding member of the International Congress of Joint Reconstruction.

OrthoIndy (Indianapolis). OrthoIndy is made up of more than 70 orthopedics specialists and includes 14 locations. In 2005, OrthoIndy opened the Indiana Orthopaedic Hospital and physicians also participate in the Orthopaedic Research Foundation fellowships in sports medicine, spine and trauma. OrthoIndy includes team physicians for the Indiana Pacers.

The Orthopedic and Sports Medicine Center of Oregon (Portland). The Orthopedic and Sports Medicine Center of Oregon provides orthopedic care which includes fracture care, joint reconstruction, stabilization of ligaments

and tendons and muscle injuries. The physicians at the practice use non-surgical and surgical methods, such as arthroscopy. They also treat pediatric issues such as scoliosis, fractures and bone trauma.

The Orthopedic Center of St. Louis. The Orthopedic Center of St. Louis is made up of 10 subspecialized orthopedic surgeons. In 2005, the orthopedic center combined with Surgery Center Partners and ProRehab to relocate and expand orthopedic medical services into one location. George Paletta, Jr., MD, serves as the medical director and head team physician for the St. Louis Cardinals.

Orthopedic Physician Associates (Seattle). Orthopedic Physician Associates includes two practices and has diagnostic services such as MRI and diagnostic X-ray equipment. E. Edward Khalfayan, MD, is among the only physicians in the country to serve as a head team physician for both a National Football League and a Major League Baseball team, the Seattle Seahawks and Mariners.

Orthopaedic & Sports Medicine Clinic of Kansas City (Mo.). Orthopaedic & Sports Medicine Clinic of Kansas City surgeons serve as team physicians for the Kansas City Chiefs. Jon E. Browne, MD, is the head team physician for the Chiefs and also serves as program director of the University of Missouri – Kansas City's Orthopedic Sports Medicine Fellowship Program.

Orthopaedic & Sports Medicine Specialists of Green Bay (Wis.). The 12 physicians at Orthopaedic & Sports Medicine Specialists of Green Bay focus on sports medicine, arthroscopic surgery, fracture care, joint replacement and extremities surgery. The practice has partnered with Bellin Hospital. Patrick McKenzie, MD, is a team physician for the Green Bay Packers, a position he has held for nearly two decades.

The OSM Clinic (Trumbull, Conn.). The Orthopaedic & Sports Medicine Center was founded in 1994 by Stuart C. Belkin, MD, and Michael R. Redler, MD, and now includes 12 providers. Dr. Redler is an orthopedic consultant to Major League Lacrosse and other members of the practice have team affiliations with local universities and high schools.

Peachtree Orthopaedic Clinic (Atlanta). Peachtree Orthopaedic Clinic was founded in 1953 by F. James Funk, MD, who was also a founding member of the American Orthopaedic Society for Sports Medicine. Dr. Funk was also the first team physician for the Atlanta Falcons when the team joined the league in 1965. Now, the physicians of Peachtree Orthopaedic Clinic are affiliated with the Atlanta Braves and Atlanta Hawks.

Phoenix Orthopedic Group. Phoenix Orthopedic Group was founded in 1971 by Howard Aidem, MD, and Thomas Taber, MD. The surgeons also perform hip, knee and shoulder replacements, arthroplasty and arthroscopic surgery. Its affiliated surgeons treat ligament tears, fractures, knee, shoulder, hip, foot and ankle and elbow and hand injuries.

Resurgens Sports Medicine Center (Atlanta). Resurgens Orthopaedics includes 27 locations in the Atlanta area, including six surgery centers. The sports medicine center has 21 locations in the Atlanta metropolitan area with 38 physicians who provide a full range of sports medicine services. Joseph Chandler, MD, is the director of medical services emeritus for the Atlanta Braves.

Rothman Institute (Philadelphia). Rothman Institute was founded in 1970 by Richard H. Rothman, MD, and has expanded to include at least 17 locations in Philadelphia and New Jersey. Michael G. Ciccotti, MD, director of sports medicine at Rothman Institute, is head team physician for the Philadelphia Phillies. Peter F. DeLuca, MD, is head team physician for the Philadelphia Eagles.

Slocum Center for Orthopedics & Sports Medicine (Eugene, Ore.). Slocum Center for Orthopaedics & Sports Medicine was founded in 1995 as a merger between the Orthopedic and Fracture Clinic of Eugene and the McKenzie Orthopedic Group. One of its physicians, Stanley L. James, MD, is a founding member of the American Orthopaedic Society for Sports Medicine and was recently inducted into its hall of fame.

Sports, Orthopedic and Rehabilitation Medicine Associates (Redwood City, Calif.). Sports, Orthopedic and Rehabilitation Medicine Associates (SOAR) specializes in sports medicine and has treated professional athletes and weekend warriors. The practice has team physicians for the San Francisco Giants and San Jose Giants. Services at the practice include MRI, arthritis treatment and the SOAR Surgery Center.

Sports and Orthopaedic Specialists (Edina, Minn.). Sports and Orthopaedic Specialists have five locations around the Edina, Minn., area that include outpatient evaluation, physician consultants and X-ray. Practice founder Daniel D. Buss, MD, has been the team physician for the Minnesota Twins since 1990. The practice is also affiliated with the Minnesota Thunder.

Sports Medicine Associates (San Antonio). Sports Medicine Associates physicians are team physicians for the San Antonio Spurs, Silver Stars and Rampage. They also have affiliations with local collegiate teams. David R. Schmidt, MD, team physician for the Spurs, was awarded the Team Physician of the Year award from the NBATA in 2004 and Ernest Jokl Sports Medicine Award from the United States Sports Academy in 2007.

The Steadman Clinic (Vail, Colo.). The Steadman Clinic includes nine physicians and four locations. The practice was founded by J. Richard Steadman, MD, who remains a managing partner. He also founded and chairs the Sports Medicine Research Institute in 1988, which is called the Steadman Philippon Research Institute today. Several of the surgeons have had affiliations with the USA Ski Team, have treated professional athletes and regularly engage in sports medicine-related research.

Steadman Hawkins Clinic Denver. The Steadman Hawkins Clinic Denver treats patients who need arthroscopic surgery, knee surgery, rotator cuff repair and general orthopedics, among other conditions. Among the six physicians in the practice, there are team physicians for the Denver Broncos, Colorado Rockies and USA Ski Team. Steadman Hawkins Clinic Denver physicians have also worked with Olympic athletes.

The Stone Clinic (San Francisco). Kevin R. Stone, MD, is a surgeon at The Stone Clinic and chairman of the Stone Research Foundation in San Francisco. Services at the practice include diagnostic imaging, rehabilitation, outpatient surgery and MAKOplasty robotic-assisted surgery. Last year, Dr. Stone opened the first dedicated meniscus transplant center at The Stone Clinic where surgeons combine meniscus replacement with articular cartilage stem cell paste grafting and ligament reconstruction when needed.

Texas Sports Medicine and Orthopaedic Group (University Park). The physicians of Texas Sports Medicine and Orthopaedic Group are the team physicians for the Dallas Mavericks. Services at the practice cover musculoskeletal treatment, MRI, radiology suites, hyperbaric oxygen therapy and rehabilitation. The practice includes four locations and previously consulted with the Dallas Burn professional soccer team and Dallas Texans arena football league.

TRIA Orthopaedic Center (Minneapolis). TRIA physicians have been serving professional athletic teams in Minnesota for more than 25 years. Since its inception, the practice has brought the Acute Injury Clinic, Women's Sports Medicine Program and a mobile care unit to the market. The practice includes team physicians for the Minnesota Timberwolves, Vikings, Twins, Wild and Lynx.

Tri-County Orthopedics & Sports Medicine (Morristown, N.J.). The 14 physicians of Tri-County Orthopedics & Sports Medicine include Wayne A. Colizza, MD, chief of sports medicine service at Morristown (N.J.) Memorial Hospital and president-elect of the New Jersey Orthopedic Society, and Kenneth D. Montgomery, MD, head team physician for the New York Jets. The practice is closely aligned with Morristown Memorial Hospital, which is united with Atlantic Health.

UHZ Sports Medicine Institute (Coral Gables, Fla.). The physicians of UHZ Sports Medicine Institute are sports medicine providers for the Tampa Bay Buccaneers, Florida Panthers and Miami City Ballet. Founding member John W. Uribe, MD, has been a team physician for the Miami Dolphins and Florida Marlins. The practice participates in an accredited fellowship for orthopedic surgeons.

UPMC Center for Sports Medicine (Pittsburgh). UPMC Center for Sports Medicine is the official medical provider for the Pittsburgh Steelers, Panthers and Penguins. The practice supports a young athlete program focusing on injury prevention, nutrition, condition and activity-specific training. The center includes 34 large examination rooms, MRI, digital radiology work stations, a neuromuscular research laboratory and a training and rehabilitation gym.

UB Orthopaedics & Sports Medicine (Amherst, N.Y.). UB Orthopaedics & Sports Medicine are team physicians for the Buffalo Bills, Sabres and Bandits. The practice is affiliated with the Catholic Health System, Erie County Medical Center, Kaleida Health and Niagara Falls Memorial. Last year, the practice began hosting the Ralph & Mary Wilson Gift Lecture Series focusing on sports medicine.

University of Florida Orthopaedics and Rehabilitation (Gainesville). University of Florida Orthopaedics and Rehabilitation physicians are affiliated with the Florida Gator athletes and see patients from all over the United States and the world. Michael Moser, MD, is the division chief of sports medicine and Kevin Vincent, MD, is the medical director of the UF Sports Performance Center.

Virginia Institute for Sports Medicine (Virginia Beach). The Virginia Institute for Sports Medicine is an orthopedic practice focused on treating athletes of all ages. Four board-certified physicians provide orthopedic care, including Patrick O'Connell, MD, who serves as the team physician for several local athletic teams.

Washington Orthopaedics & Sports Medicine (Washington D.C.). The 10 orthopedic surgeons and specialists at Washington Orthopaedics & Sports Medicine see patients from three office locations. The practice cares for athletes on the PGA Tour, Washington Capitals, Washington Wizards and Washington Mystics.

Wellington Orthopaedic & Sports Medicine (Cincinnati). Robert S. Heidt, Sr., MD, and Dale E. Fox, MD, founded Wellington Orthopaedic and Sports Medicine in 1968. Present practice affiliations include the Cincinnati Bengals, Cincinnati Ballet and United States Olympic teams. The practice also includes a fellowship in sports medicine directed by Robert S. Heidt, Jr., MD. ■

Minimally Invasive Total Shoulder Replacements & What Lies Ahead for Shoulder Surgery: Q&A With Dr. Anthony Romeo of Midwest Orthopaedics at Rush

By Laura Miller

Anthony Romeo, MD, director of the section of shoulder and elbow at Rush University Medical Center in Chicago, has spent the past several years developing the technique, instrumentation and implants for a minimally invasive total shoulder replacement. This past summer, he performed the procedure for the first time in a patient. The procedure was successful and is on the verge of becoming a big change in shoulder surgery.

"I think this procedure will have a tremendous ability to impact patients, particularly our active patients with shoulder arthritis, because it will allow us to do the operation with minimal damage to the rotator cuff," says Dr. Romeo. "By avoiding injury to the largest muscle of the rotator cuff, the subscapularis, our patients with arthritis will have a better chance of returning to full activity, whether related to work or sports."

Here, Dr. Romeo discusses his process for developing the procedure and where he sees it heading in the future.

Q: What was your motivation for developing this technique for minimally invasive shoulder replacements?

Dr. Anthony Romeo: I was motivated by the fact that one of the most challenging problem with regards to return to function after a shoulder replacement has been how well the rotator cuff tendon heals after surgery. To perform a shoulder replacement in the standard fashion, we go through the front of the shoulder and the subscapularis. Any time you cut the tendon or move it out of the way, up to 20 percent of patients will have a change in function because the muscle undergoes permanent atrophy.

What we have been doing for more than 50 years is creating a rotator cuff tear to access the arthritis in the patient's shoulder and then repairing that rotator cuff tear afterward. One out of every five patients has a problem with the rotator cuff returning to its normal size and function. There has been a lot of research about different ways to move the tendon out of the way, including an osteotomy and lifting the bone with the tendon to prevent this problem. There is some evidence to suggest it may be a little bit better with that technique, but it's still a major problem.

It was my plan to do this operation without cutting the rotator cuff at all. That would dramatically change the results of shoulder pain for arthritis.


Dr. Anthony Romeo

Q: What elements of this new procedure make it innovative?

AR: I wanted to figure out a way to perform the shoulder replacement consistently through the rotator interval — not through the tendon. I wanted to go through the small hole of the

rotator interval, remove the humeral head — which could be 50 mm or more in diameter — and be able to replace the glenoid and humeral head without removing any attachment in the rotator cuff. I wanted to make the procedure reliable and consistent, which requires guides and instruments specifically designed for this approach.

Based on the restriction of the size of the rotator interval, I worked with talented engineers and developed a technique where the neck-shaft angle for the humeral head is identified with a special guide and then a large pin is placed from the lateral side of the humerus into the center of the humeral head. The tip of the strong pin comes out of the center of the humeral head and then connects to a bone reamer, which can be placed inside the joint. When you pull back on the pin, the reamer cuts away the humeral head — you retro-ream the humeral head. It has a tissue protector so it stops before it cuts into the rotator cuff.

Q: How long did it take you to develop this procedure?

AR: It took about two years to develop and confirm the methods that are used to identify the proper position of the alignment guides, which are used for the placement of the reaming device. Once the humeral head is correctly resected, there is enough room to release the capsule and then work on both the humerus and glenoid preparation. There have been many developmental cadaver labs as we went through the prototypes and tested the methods, refining the technique each step of the way before we proceeded to perform the operation on patients. We had to make sure it was "do-able," and once we knew it was possible, we had to make it as safe as possible for our patients.

Another important priority was to design the technique so that other surgeons could adapt it into their practice and make it safe for their patients too. That's a complex set of events to arrive in this place.

Q: Are there any other surgeons who are doing this procedure, or have done anything like it in the past? How does it fit with the evolution of surgical technique for shoulder surgery?

AR: Yes, Laurent Lafosse from Annecy, France, has been a pioneer in rotator-cuff preserving shoulder replacements. He published a case series regarding his method of a "free-hand" cut of the humeral bone through the small window of the rotator interval. You can imagine the challenges and potential risks that are inherent in that technique, especially when less experienced surgeons try this method. Therefore, a major focus of the innovation was developing guides and instruments that would allow surgeons to accomplish this procedure accurately and safely.

It's important to ensure that the overall care of the patient is not compromised by an inability to get the replacement in the correct position, or by an increased risk of complications. The development of a reverse reamer or "retro-reamer" has never been described as a technique to be used for shoulder replacement surgery.

We went through many cadaver procedures before performing the operation on my first patient. Our initial patients have done exceptionally well and they were sent home the day after surgery. In the future, if implant reimbursement is aligned with this technique, and a multimodal anesthesia approach is used, this could be an outpatient procedure for many of these patients. Patients require less narcotic medication, and therefore have less nausea and drowsiness; they are up out of bed the day of surgery, and easily transition from the preoperative interscalene block to oral pain medications.

Q: Do you see this procedure becoming more prevalent in the future?

AR: Yes, the technique will become more widespread, but there will be limitations when the severity of arthritis results in large osteophytes and deformities of the glenoid. Over time, these challenges will inspire additional innovation that may help to reduce those patients who are not good candidates today. I don't think this technology will be useful for most revision surgeries. However, the technology and technique can be used for an operation that has become much more common: reverse shoulder replacement. I predict that up to one-third of shoulder replacement cases could use this new technology.

Q: How much training is involved for surgeons to incorporate this procedure into their practices safely?

AR: Surgeons will have to understand that there is a significant change in surgical exposure and the releases around the shoulder joint that must be performed through the rotator interval. These releases are essential to the operation, and they are more technically demanding when the rotator cuff is intact. Surgeons are going to have to learn how to do these releases to make sure they put the guides and reamers in the right spot and give themselves full exposure to the glenoid for glenoid replacement.

Certainly, it will be important to undergo a surgeon-training program and practice this technique in a cadaver lab situation so they feel comfortable with the surgical exposure and the use of new instruments.

Q: Since this procedure is so new, are surgeons able to bill for it and receive appropriate reimbursement?

AR: The implants that are used through the rotator cuff are the same as the standard shoulder replacement, but the technique has changed substantially. This is something that needs to be worked out with insurance companies. The new procedure would be considered "unlisted" in terms of billing.

Q: Where do you see the field of shoulder surgery evolving in the future?

AR: Shoulder replacement surgery has advanced substantially over the past 10 years. The implants are more anatomic and provide an opportunity for better shoulder function. Currently we are seeing many centers working on the challenges of the glenoid, and I anticipate we will have more options for patients with severe glenoid alignment problems and bone loss.

However, the function of the shoulder remains heavily dependent on a healthy and strong rotator cuff. Cutting through the rotator cuff creates damage to the shoulder that was not present before the operation, and we have to adjust the postoperative care and rehabilitation based on this surgeon-imparted injury. If we can consistently perform the operation without cutting through the rotator cuff, patients are more likely to achieve their maximum potential in terms of pain release, range of motion and function. ■

On the Forefront of ACL Reconstruction: 4 Points From Dr. Freddie Fu of UPMC Sports Medicine

By Heather Linder

Freddie Fu, MD, is an orthopedic surgeon and the chairman of University of Pittsburgh Medical Center's Department of Orthopaedic Surgery.

Dr. Fu is known for his pioneering surgical techniques to treat knee and shoulder injuries and for his extensive scientific and clinical research in the biomechanics of joint injuries. He has earned more than 70 professional awards and numerous research grants for sports medicine and orthopedic surgery research.

Here, Dr. Fu discusses four points about the present and future of ACL reconstruction.

1. Moving away from traditional non-anatomic reconstruction. About 10 years ago, Dr. Fu began to look more critically at ACL reconstruction as it was performed in the 1980s and early 1990s, which he says was "fast and efficient but got away from the anatomy."

"It was very common to put the ACL graft in the wrong place," he says. "If you put the ACL graft in the wrong place, the forces that are normally directed through the ACL when the joint is loaded will now be distributed to the surrounding structures such as muscle, collateral ligaments and articular cartilage. As a result, there is more wear and tear on the cartilage in the knees, potentially progressing to the early onset of osteoarthritis. It was a quick fix that you will probably have to fix again later."

One of the problems with this procedure is that it did not take the anatomic and functional properties of the ACL into consideration, as they were not fully understood at that time. As research has progressed, a better understanding of the native "double-bundle" anatomy of the ACL has developed. "Every ACL is made up of two functionally different bundles," he says. "For years we've been replacing them with one non-anatomically placed single bundle, which, at least in the short term, seemed to work."

2. A renewed interest in anatomy. Dr. Fu's individualized anatomic approach aims to place the graft in the exact place of the original ACL with either one or two bundles, depending on the size, shape and orientation of the ligament being replaced. Many other factors can also dictate whether a single- or double-bundle reconstruction is performed, including notch size and associated injuries.

"The double-bundle concept taught me that we should place the ACL in the right place, whether using one or two bundles," he says. "There is variation of size and shape of every ACL. Some are small, some are large. It's unique in every case."

When put in the correct place, the ACL graft may approximate the function of the native ACL and prevent the wear and tear seen with traditional non-anatomic techniques. "We need to eliminate non-anatomical graft placement as a risk factor for osteoarthritis," Dr. Fu says. In fact, the difference between the correct and incorrect positions may only be a millimeter or two, he says. The difference can be so subtle that patients often feel stable after a non-anatomic reconstruction.

However, the physical exam in the doctor's office is not sensitive enough to register the subtle, subclinical alterations in knee biomechanics associated with misplacement of the graft. Dr. Fu is collaborating with Scott Tashman, MD, at the UPMC Biodynamics Lab, where they use a highly sophisticated machine to measure in vivo kinematics of the knee joint and track its movements down to 0.1 millimeters.

3. Learning through research. Currently, Dr. Fu is leading a team of researchers at UPMC who are conducting numerous studies pertaining to ACL reconstruction and the corresponding anatomy. In this regard, he and his team have published more than 100 papers on the ACL and Dr. Fu has lectured on the anatomy, surgery and outcomes of ACL surgery in more than 15 countries throughout the world.

Recently, Dr. Fu and his team have secured a $2.9 million grant from the National Institutes of Health (NIH) to conduct a randomized controlled clinical trial comparing anatomic single-bundle to anatomic double-bundle reconstruction techniques. The trial will include 160 cases over three years and is one of the largest clinical trials on the ACL ever performed in the United States. So far, he and his team have completed 50 cases.

He described the procedure they are testing as more anatomically correct and individualized than ACL surgeries have been in the past. "We don't want to do a one-size-fits-all surgery. Every patient is different," Dr. Fu says.

4. Overcoming the learning curve. Dr. Fu's clinical trial is in full swing, and clinically it appears that anatomic ACL reconstruction, whether single- or double-bundle, will facilitate good clinical outcomes. It is the more objective outcome measures, however, such as the sensitive in vivo kinematic measurements that may or may not show a difference between the two techniques. The next challenge will be getting surgeons to change and adopt the more anatomical approach.


Dr. Freddie Fu

"You need to change the whole way you approach the injured ACL," he says. "That's hard for somebody who's done hundreds of non-anatomic reconstructions. It's hard to admit you made a mistake."

The learning curve for his new procedure is steep. "It took me 30 years to get to where I am, and we have just recently learned to place the ACL graft in an anatomic position." ■

18 Spine Surgeons & Specialists on the Move

By Laura Miller

New York City-based White Plains Hospital welcomed **Jared Brandoff, MD**, a spine surgeon who has training in advanced techniques for spinal reconstruction.

Spine surgeon **Steven J. Cyr, MD**, has joined the Orthopaedic and Spine Institute in San Antonio after completing his fellowship in spine surgery at Mayo Clinic in Rochester, Minn.

New Lenox, Ill.-based Silver Cross Hospital welcomed **Ashraf Darwish, MD**, a recently trained spine surgeon who will base his office in Oak Orthopedics in Frankfort, Ill., after completing his fellowship in spine surgery at Texas Back Institute in Plano.

Zachariah George, MD, has joined Neurological Surgery P.C., a Rockville Centre, N.Y.-based private practice of neurosurgeons and allied specialists, after finishing a fellowship in complex orthopedic spine surgery at Beth Israel Medical Center in New York City. Neurosurgeons **Vladimir Dadashev, MD,** who completed a residency at Emory University School of Medicine, and **Sachin N. Shah, MD**, who finished a fellowship at the University of Miami, also joined Neurological Surgery.

Estes Park (Colo.) Medical Center Specialty Clinic added spine surgeon **Matt Gerlach, MD**, to its staff, who completed his fellowship in spine surgery at Rocky Mountain Spine Clinic in Lone Tree, Colo.

Atlanta-based Southern Orthopaedic Specialists welcomed orthopedic surgeon **Douglas Kasow, DO**, who has a special interest in treating patients with adult degenerative cervical and lumbar pathology.

Neurosurgeon **Jeffrey Lobel, MD**, joined staff at Genesis HealthCare System in Zanesville, Ohio, after completing a fellowship in neurosurgery oncology and Gamma Knife at Roswell Park Cancer Institute in Buffalo, N.Y.

Orthopedic spine surgeon **Jeffrey Nees, MD**, joined Laser Spine Institute's surgical center in Oklahoma City, after spending 15 years in private practice as a general neurosurgeon.

Anna Jacques Hospital in Newburyport, Mass., has added two spine surgeons: **Richard M. Ozuna, MD**, and **Jeremy M. Shore, MD**. Dr. Ozuna has been the director of the spine center at Sports Medicine North in Newburyport and Dr. Shore has been a clinical instructor at Tufts University.

Chris Reeves, DO, joined the medical staff at North Arkansas Regional Medical Center in Harris, after completed a fellowship in spine surgery at Beverly Hills (Calif.) Spine Group.

Neurosurgeon **Brett Reichwage, MD**, has joined Andrews Institute in Gulf Breeze, Fla., and Baptist Medical Center and has a professional interest in treating delicate neural elements associated with the brain and spinal cord.

David I. Sandberg, MD, has been named chief of pediatric neurosurgery at The University of Texas Health Science Center at Houston Medical School and he will be an attending physician at Children's Memorial Hospital and Mischner Neuroscience Institute at Memorial Hermann-Texas Medical Center in Houston.

Saquib Siddigui, MD, joined San Antonio-based Minimally Invasive Center for Excellence where he will practice spine surgery after completing his spine fellowship at Texas Back Institute.

Neurosurgeon **Howard Smith, MD**, joined Brain & NeuroSpine Clinic of Missouri in Cape Girardeau after completing his neurosurgery residency at the University of Missouri at Columbia.

Spine surgeon **Issada Throngtrangan, MD**, joined Valley Orthopedics in Phoenix and has completed fellowship training in spine surgery at Texas Back Institute, neurosurgical spine and peripheral nerve reconstruction at Stanford University Medical Center and orthopedic trauma at Virginia Commonwealth University Medical Center.

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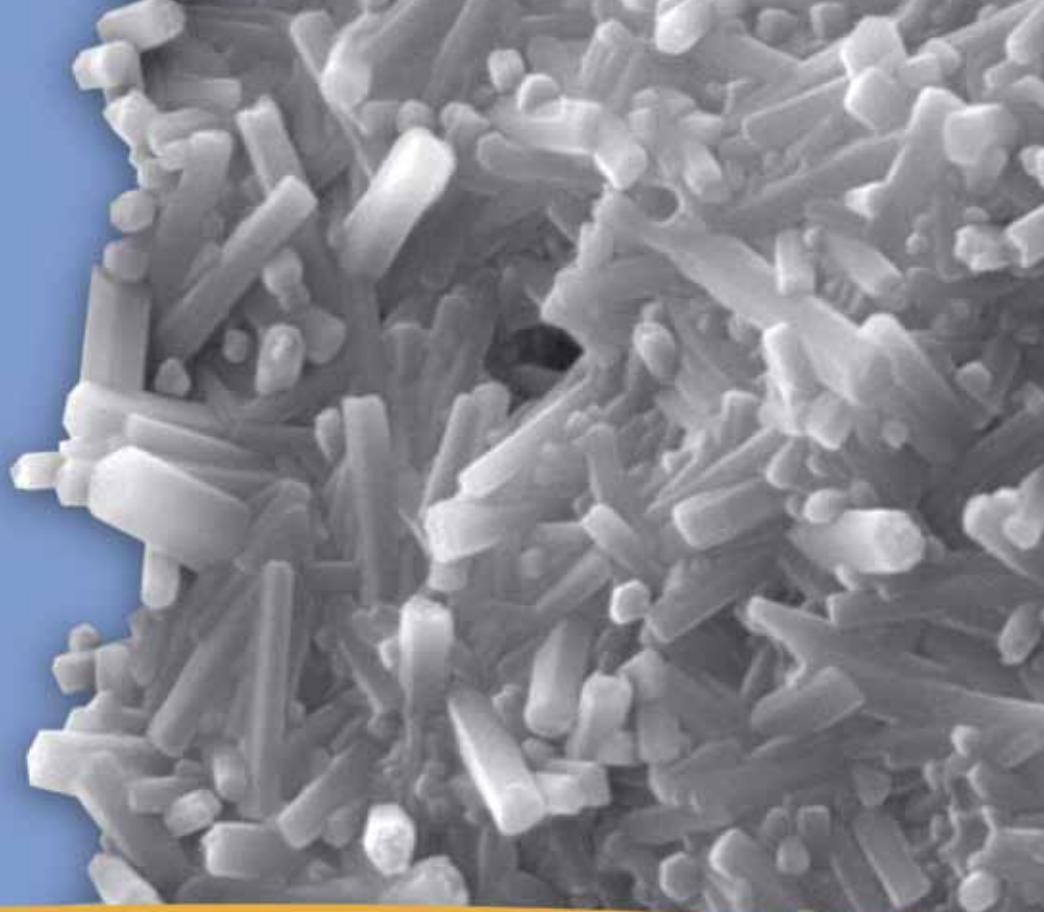

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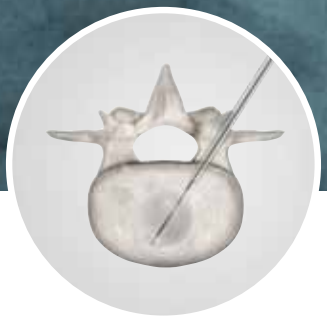

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* As of September 2012.