VOLUME 6, ISSUE 24 | JULY 27, 2010

# Orthopedics This Week

## week in review



## picture of success



## breaking news



**For all news that is Ortho, read on.**

Orthopedics This Week

VOLUME 6, ISSUE 24 | JULY 27, 2010

# Orthopedic Power Rankings

## Robin Young's Entirely Subjective Ordering of Public Orthopedic Companies

**This Week:** The sell-off continues. Sellers drove orthopedic valuations down again last week. The average orthopedic company is now at 12.3x earnings and 2.5x sales. By comparison the S&P 500 is 20.07x earnings. What does this say? It says institutional investors view orthopedics as a riskier-than-average investment.

| Rank | Last Week | Company | TTM Op Margin | 30-Day Price Change | Comment |
|---|---|---|---|---|---|
| 1 | 1 | Orthofix | 13.51% | (9.16%) | Earnings due this week. Consensus is looking for 30% earnings growth on 4% sales growth. |
| 2 | 2 | Kensey Nash | 38.72 | 3.57 | What do you with $70 million in cash? Buy something or pay it out? Either way, that cash is the bulwark against uncertainty. |
| 3 | 5 | Medtronic | 32.48 | (1.88) | Up two spots this week on the basis of a 11x PE and a whopping 32% operating margin. Talk about cheap dollars. |
| 4 | 7 | Zimmer | 27.69 | (2.29) | Up smartly this week on the basis of a solid, unexpectedly positive earnings report. |
| 5 | 6 | Stryker | 24.71 | (6.20) | Up one place this week despite lukewarm operating results. Profit margins rose in the quarter. Medsurg surged. Two good signs. |
| 6 | 4 | Symmetry | 11.48 | (4.61) | The upcoming quarterly report is supposed to be ugly—11 vs. 25. Ugh. But next year. Much better. Consensus says 74 vs. 48. |
| 7 | 3 | Johnson & Johnson | 27.10 | (2.72) | A high dividend can only take a company so far. After last quarter's performance, looks like down earnings for 3Q on flat sales. |
| 8 | 8 | Smith & Nephew | 22.83 | (0.70) | This coming report will be key, not only for SNN but for the industry. Will SNN also report sluggish hip and knee sales? |
| 9 | 9 | Exactech | 12.72 | (9.81) | When the orthopedic industry catches a cold, EXAC, being small, is more vulnerable. First week in August will tell the story. |
| 10 | 10 | Integra LifeSciences | 15.37 | (11.70) | Consensus for this week is that IART will post up 25% earnings growth on 6% sales growth. Market is showing skepticism. |

# Robin Young's Orthopedic Universe

## Top Performers Last 30 Days

| | Company | Symbol | Price | Mkt Cap | 30-Day Chg |
|---|---|---|---|---|---|
| 1 | CryoLife | CRY | $6.06 | $174 | 9.0% |
| 2 | Capstone Therapeutics | CAPS | $0.74 | $30 | 5.7% |
| 3 | Kensey Nash | KNSY | $23.24 | $226 | 3.6% |
| 4 | Synthes | SYST.VX | $113.90 | $13,517 | 0.1% |
| 5 | TiGenix | TIG.BR | $2.21 | $68 | -1.7% |
| 6 | Medtronic | MDT | $36.58 | $39,610 | -1.9% |
| 7 | Zimmer Holdings | ZMH | $52.94 | $10,740 | -2.3% |
| 8 | Johnson & Johnson | JNJ | $57.63 | $158,950 | -2.7% |
| *9* | *Average* | | | *$10,684* | *-3.1%* |
| 10 | Osteotech | OSTE | $3.19 | $58 | -4.2% |

## Worst Performers Last 30 Days

| | Company | Symbol | Price | Mkt Cap | 30-Day Chg |
|---|---|---|---|---|---|
| 1 | Orthovita | VITA | $1.87 | $144 | -20.1% |
| 2 | Alphatec Holdings | ATEC | $4.23 | $369 | -15.4% |
| 3 | ArthroCare | ARTC | $26.58 | $716 | -15.0% |
| 4 | TranS1 | TSON | $2.36 | $49 | -14.5% |
| 5 | Mako Surgical | MAKO | $11.83 | $399 | -12.6% |
| 6 | Wright Medical | WMGI | $15.56 | $604 | -12.0% |
| 7 | Integra LifeSciences | IART | $34.27 | $994 | -11.7% |
| 8 | Smith & Nephew | SNN | $43.13 | $7,660 | -10.7% |
| 9 | Exactech | EXAC | $15.44 | $199 | -9.8% |
| 10 | Orthofix | OFIX | $29.25 | $515 | -9.2% |

## Lowest Price / Earnings Ratio (TTM)

| | Company | Symbol | Price | Mkt Cap | P/E |
|---|---|---|---|---|---|
| 1 | Medtronic | MDT | $36.58 | $39,610 | 11.04 |
| 2 | Johnson & Johnson | JNJ | $57.63 | 158,950 | 12.22 |
| *3* | *Average* | | | *$10,684* | *12.31* |
| 4 | Exactech | EXAC | $15.44 | $199 | 12.54 |
| 5 | Zimmer Holdings | ZMH | $52.94 | $10,740 | 12.60 |

## Highest Price / Earnings Ratio (TTM)

| | Company | Symbol | Price | Mkt Cap | P/E |
|---|---|---|---|---|---|
| 1 | Smith & Nephew | SNN | $43.13 | $7,660 | 60.90 |
| 2 | RTI Biologics Inc | RTIX | $2.86 | $156 | 47.55 |
| 3 | NuVasive | NUVA | $34.39 | $1,350 | 31.10 |
| 4 | Symmetry Medical | SMA | $10.55 | $379 | 21.05 |
| 5 | CONMED | CNMD | $17.99 | $525 | 16.52 |

## Lowest P/E to Growth Ratio (Earnings Estimates)

| | Company | Symbol | Price | Mkt Cap | PEG |
|---|---|---|---|---|---|
| 1 | Orthofix | OFIX | $29.25 | $515 | 0.58 |
| 2 | CryoLife | CRY | $6.06 | $174 | 0.67 |
| 3 | Alphatec Holdings | ATEC | $4.23 | $369 | 0.79 |
| 4 | Exactech | EXAC | $15.44 | $199 | 0.86 |
| 5 | NuVasive | NUVA | $34.39 | $1,350 | 0.90 |

## Highest P/E to Growth Ratio (Earnings Estimates)

| | Company | Symbol | Price | Mkt Cap | PEG |
|---|---|---|---|---|---|
| 1 | CONMED | CNMD | $17.99 | $525 | 7.06 |
| 2 | Symmetry Medical | SMA | $10.55 | $379 | 2.01 |
| 3 | Johnson & Johnson | JNJ | $57.63 | 158,950 | 1.87 |
| *4* | *Average* | | | *$10,684* | *1.63* |
| 5 | RTI Biologics Inc | RTIX | $2.86 | $156 | 1.46 |

## Lowest Price to Sales Ratio (TTM)

| | Company | Symbol | Price | Mkt Cap | PSR |
|---|---|---|---|---|---|
| 1 | Osteotech | OSTE | $3.19 | $58 | 0.62 |
| 2 | CONMED | CNMD | $17.99 | $525 | 0.73 |
| 3 | Orthofix | OFIX | $29.25 | $515 | 0.88 |
| 4 | RTI Biologics Inc | RTIX | $2.86 | $156 | 0.94 |
| 5 | Symmetry Medical | SMA | $10.55 | $379 | 1.06 |

## Highest Price to Sales Ratio (TTM)

| | Company | Symbol | Price | Mkt Cap | PSR |
|---|---|---|---|---|---|
| 1 | TiGenix | TIG.BR | $2.21 | $68 | 66.11 |
| 2 | Mako Surgical | MAKO | $11.83 | $399 | 10.31 |
| 3 | Synthes | SYST.VX | $113.90 | $13,517 | 3.98 |
| 4 | NuVasive | NUVA | $34.39 | $1,350 | 3.20 |
| 5 | Kensey Nash | KNSY | $23.24 | $226 | 2.81 |

# The Shifting Outlook for Orthopedics

By Robin Young

Pricing, reimbursement, and spending pressures have become aural wallpaper for our industry. The effects of that insistent refrain from Wall Street analysts and anonymous bloggers (too numerous to mention) has begun to oxidize the infrastructure of orthopedic company valuations.

*MorgueFile*

From an economic perspective, the business of manufacturing orthopedic products is about 0.2% of U.S. Gross Domestic Product (GDP) which is too small to have much macroeconomic impact. But when lost work time is factored in the impact is 8% of U.S. GDP and when patient impact (assuming roughly 75 million patients see their doctors for an orthopedic complaint each year) is considered, the effect rises to 21% of the U.S. population.

From a valuation perspective, the business of manufacturing orthopedic products is about 0.17% of all equity valuations that trade on the U.S. market which is close to its actual economic impact. Over the past 18 months the value of the orthopedic industry has declined to a point where, by most traditional valuation measures, the industry is either inexpensive or prospects for orthopedic sales and profits are worse than published estimates would indicate.

The debate about whether this industry is in for a difficult short term versus a more favorable long term because of demographically driven demand changes is an important one, which we will examine more in a moment. For now though, the thing that strikes us most is the remarkable 180-degree change in consensus outlook for the largest sector in orthopedics: spine surgery.

## The Changing Outlook for Spine Surgery

Six years ago the consensus of most industry observers and investors was that spine surgery was the top investment choice for hospitals, manufacturers, private equity firms and generally speaking, Wall Street. It was then the most profitable service sector in orthopedics with high-dollar procedures, a payer mix weighted toward private payer (as opposed to Medicare) patients, favorable reimbursement updates from Medicare and the perceived long-term trend of increasing per capita utilization. In addition, new technologies (treatments for vertebral compression fractures and motion preserving implants) were expected to be the engine for sustained growth over the next several years.

What happened? While spine continued to be the most profitable service sector in most hospitals, changing attitudes at the FDA and CMS (Centers for Medicare and Medicaid Services) effectively mugged new spine technologies between 2004 and 2009 and set in motion, we think, an institutional bias against higher reimbursements for spine surgery. Today the consensus view is this:

- Motion preservation technologies will not replace fusion surgery
- Biologics are still critical to the future of spine care but that BMPs are too expensive
- And finally, the appropriateness of surgical spine interventions is debated at the payor level

## Demand Drivers and Variables

Making projections is particularly dangerous at the peak and trough of a cycle. In 2004, the sales and earnings outlook for orthopedics looked sunny as new procedures (intervertebral implants, extremity replacements, MIS) were starting to roll out, Medicare reimbursement was rising, suppliers were reporting strong cash flows and new capital flowed in. So projections reflected those rosy days.

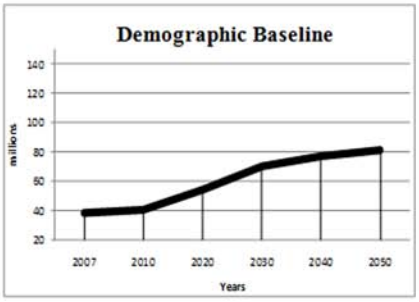
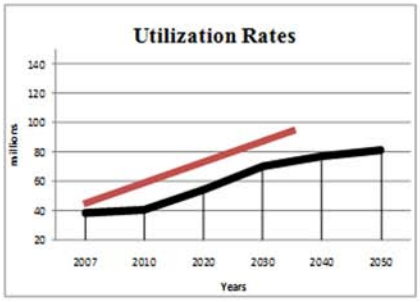
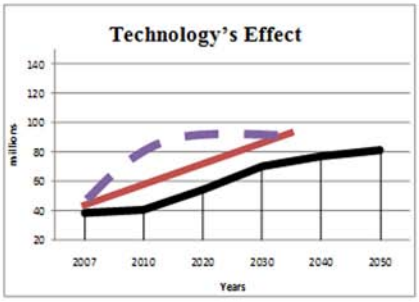
Today we are at the other end of the cycle, which should make us wary of predictions of imminent procedure or profit declines.

Then, there always is the "Stuff Happens" wild card. Last March U.S. Health Reform passed and with it comes a series of initiatives and changes which will affect every corner of U.S. healthcare. These changes are scheduled to roll out in phases over the next 36 months.

It's going to be another very interesting few years.

Here is how we analyze the factors that have been put in play and how, we think, they will likely shift trend lines in 2011 and beyond.

**Long-Term Outlook for the Orthopedics Industry**

| Demographic Baseline | Utilization Rates | Technology's Effect |
|---|---|---|
|  |  |  |
| Aging populations in the U.S., Canada and Europe form the core of demand curve shift long term. Medicare forecasts as well as census data indicate that this is fundamentally an inelastic curve. Pain knows no economic limitations. As a result, we forecast that demand for orthopedic interventions will accelerate between now and 2040. | Per-capita utilization rates of orthopedic interventions have and will continue, we think, to shift the basic demand curve upwards. Increased Medicare or other insurance coverage, lifestyle decision making, new information sources (like the Internet) and increased availability of orthopedic services *globally* will, we think, keep utilization rates rising. | Technology can increase utilization rates for orthopedic procedures and diagnoses that lead to procedures. Between 1995 and 2005, surgeons and engineers did, in fact, innovate significant numbers of products. Changing 510(k) and CMS reimbursement policies however, increase the risk that product innovation will stop contributing to per capita utilization rates. |

*Robin Young Consulting*

The core demand for orthopedic products and services is driven by the incidence of several disease states that are clearly age-related: arthritis, osteoporosis, back pain, and soft tissue (ligament, tendon, disc tissue) deterioration. The numbers of people in the U.S. that are 65 years of age or older (the prime age for orthopedic interventions) form a baseline of increasing demand. Per-capita utilization rates, which are lower than might otherwise be expected, are affected, we think, by three factors:

- Increased rates of health care coverage—whether from Medicare or government mandated private insurance programs
- Continued lifestyle decision making
- New information sources like the internet which provides consumers with cost, quality and availability information.

So per capita utilization rates for orthopedic interventions will, we expect, continue to increase.

Technology, however, is the canary in the coal mine and has already, in our view, been hit with a blast of methane gas by the FDA and CMS. We think that the U.S. is no longer a leader in medical technology and the momentum has shifted to other countries like Israel, Europe and China. As a result, we are forecasting that the role of innovation in the United States will diminish in importance as a driver of utilization rates.



## Industry Report Card

Orthopedic Industry Expected Report Card 2010-2020

| Orthopedic Industry Expected Report Card 2010-2020 | | | | | |
|---|---|---|---|---|---|
| **Change Drivers** | **Spine** | **Sports Medicine** | **Large Joint Replacement** | **Extremities** | **Trauma** |
| New Procedures | C | A- | C | B | C |
| Implant Innovation | C | C | C | C | C |
| Biologic Innovation | A | A | B | A | B |
| Implant Pricing | C- | B+ | C | B | C |
| Outpatient Procedures | B- | B+ | D | B- | C- |
| Private-Pay Reimbursement | C- | C+ | B | B | B |
| Medicare Reimbursement | C | C | B+ | C+ | B |
| Demographics | B+ | B | A | B+ | B- |
| Lifestyle Factors | B | B+ | A | B | C |
| New Points of Care | C | B+ | B | B | C |
| Growth Capital | C+ | B | C | B | C |
| **Expected Grade** | **C** | **B** | **C** | **B** | **C** |

*Robin Young Consulting*

The greatest growth driver is new procedures that solve heretofore unmet clinical problems. With the changing tenor at the FDA and CMS, this driver is not expected to affect volumes significantly. The highest future grades, we think, will come in sports medicine, extremities and biologic innovation. No sector managed to grade higher than a "B." Concerns regarding reimbursement rates and implant innovation prevented any sector from scoring higher. In fact, three of the five major orthopedic sectors did not rise above a "C."

## Sports Medicine and Extremities

Sports medicine and extremity repair have several of the most powerful growth drivers operating:

- **New points of care** like ambulatory surgery centers and independent and more entrepreneurial clinics. These points of care have the ability to build awareness of new treatments.
- **New procedures and products** for rotator cuff repair, shoulder arthroplasty, unispacer knee implants, ankle reconstruction techniques, Tommy John surgeries, and arthroscopic knee repair will attract patients.
- **Biologic innovation** in the form of allograft soft tissue transplants and repair. Stem cells are coming on strong and by 2013 will be routinely used in sports medicine and for extremity inflammation relief and soft tissue healing.

## Biologics

Allograft stem cell products are now a routine biologic alternative and by this time next year, the first FDA-approved stem cell drug will be on the market. Furthermore, new trophic and biologic transplant implants are moving into the market which will expand the range of therapies for orthopedic patients. Cartilage repair technologies took a blow when Regen Biologics ran afoul of the FDA, but progress is coming on several fronts. By 2020, two or more regenerative treatments are likely to be on the market.

## Conclusion: External Factors Hurting

Bottom line, the industry is earning a "C." External factors have made the operating environment for orthopedic companies more difficult. It doesn't have to be. Spine surgery will continue to be the largest single revenue producer in orthopedics and likely the most profitable sector for hospitals. Furthermore, if ever there was a time to accelerate the pace of innovation, it is now. Innovation in all areas including manufacturing and distribution can keep cash flows and profit margins strong for suppliers. Demand for orthopedic interventions, we expect, will rise significantly due to both demographic and utilization factors.

Hospitals, however, are hitting a personnel wall which will strain operating room capacities and drive administrators to reduce length of stays while also narrowing surgeon flexibilities. Spine is no longer the top investment choice for hospitals *or* Wall Street. But sports medicine and extremities have the potential to become the industry's centers of innovation, particularly with respect to new procedures, points of care and biologic treatments. ◆

# Berwick's CMS Assignment

By Walter Eisner

"You could nominate Gandhi to be head of CMS and that would be controversial right now."

That's what Thomas Scully, GW Bush's former head of the Centers for Medicare and Medicaid (CMS), told the Washington Post's Ezra Klein before President Obama appointed Donald Berwick, M.D., head of CMS on July 7 without going through congressional hearings.

"He's [Berwick] universally regarded and a thoughtful guy who is not partisan. I think it's more about...the health care bill," said Scully.

CMS has been without a permanent head since 2006. Berwick will lead the department through the implementation of the trillion dollar health care reform legislation that is designed to cover 32 million uninsured Americans and make health care more cost-effective.


*Wikimedia Commons/RRY Publications*

## Congressional Theater

Conservatives had been eager to grill Berwick over his views on health care rationing, his support of Britain's national health system and use the public hearings to push their agenda to overturn "Obamacare."

Berwick would have had to defend statements such as those in a 2008 speech to Britain's NHS, where he said: "You have historically put primary care…where it belongs: at the forefront. The NHS is a towering bridge between the rhetoric of justice, and the fact of justice…You could have protected the wealthy and the well, instead of recognizing that sick people tend to be poorer and that poor people tend to be sicker, and that any health care funding plan that is just, equitable, civilized, and humane must—must—redistribute wealth from the richer among us to the poorer and less fortunate."

The President however, short circuited the political theater by appointing Berwick while Congress was out of town in what is called a "recess appointment." The Administration made the announcement on the White House blog and issued the following statement:

"Dr. Berwick has the support of hundreds of health care groups and experts, including the AARP, the American Medical Association, and the CMS administrators under the most recent Republican presidents. As Mark McClellan, who served as Administrator under President George W. Bush from 2004-2006, said:

'Don [Berwick] has a unique background in both improving care on the ground and thinking about how our nation's health care policies need to be reformed to help make that happen.'"

When the Administration announced that the President intended to nominate Berwick to the post back in April, Republican Senator Tom Coburn of Oklahoma, a practicing obstetrician, said, "One concern I have is that he's an advocate of cost comparative effectiveness. There may be one or two or three

*U.S. Senate Hearing/Wikimedia Commons*

ways of doing something. I want to do what's best for the patient, not necessarily what's cheapest."

Focus too much on cost effectiveness, and "all of a sudden you're rationing care," Coburn said.

## Rational Rationing

Klein wrote in the *Post* that Senate Republicans have used past Berwick quotes like, "'The decision is not whether or not we will ration care; the decision is whether we will ration with our eyes open,' to hang Berwick with the dreaded rope of rationing. Mitch McConnell [Senate Minority Leader], who never settles for a light touch when he can find a giant stick, calls Berwick an 'expert on rationing.' Of course he is. All health care policy experts are experts on rationing. The question, as Paul Ryan [Republican Congressman] told me, isn't whether we ration, but who rations, and how."

One physician group, Docs4PatientCare, an organization that claims "thousands of concerned physicians," put out a statement by one of its leaders, Fred Shessel, M.D. The statement read:

"This is a man who has made a career out of socializing medicine and rationing care for the very young, the very old and the very sick. It is a backdoor power grab. It is dragging our country down the road to socialism and we should resist it."

So who is Berwick?

Is he the medical socialist and dreaded bureaucrat who will put the old, young and sick to death through rationing, or is he the nonpartisan thoughtful quality guru who will help bring the government's unsustainable growth rate of health care spending under control? As head of CMS, Berwick will have a big say in deciding how one-quarter of all federal dollars will be spent.

Medicare and Medicaid spent a combined $750 billion in 2009, insuring 112 million people, according to a January report from the Congressional Budget Office. The Children's Health Insurance Program spent $8 billion on health benefits for 11 million low-income pregnant women and youths.

Health care costs have been consuming an ever-growing share of the federal budget and costs for Medicare and Medicaid are expected to grow each year by seven percent over the next decade, according to the nonpartisan Congressional Budget Office.

## Berwick in Short

Berwick was Vice Chairman of the U.S. Preventative Services Task Force from 1990 to 1996, and former President Bill Clinton appointed him to the Advisory Commission on Consumer Protection and Quality in the Health Care Industry in 1997 and 1998.

He earned an "Award of Honor" from the American Hospital Association in 2002 and the appointment to honorary Knight Commander of the Most Excellent Order of the British Empire in

*Donald Berwick, M.D./ photo courtesy of apqc.org*

2005, the highest prize afforded to non-British citizens for efforts to improve international health care quality.

Berwick teaches pediatrics and health care policy at his alma mater, Harvard University. He also practices pediatrics at Boston Children's Hospital and at Massachusetts General Hospital. He has published more than 130 scientific articles, books on health care policy, and is also a member of several editorial boards of medical journals.

## Unknown Coverage and Payment Record

One former CMS coverage official told us that very little is known about Berwick from a coverage and payment standpoint. He is primarily known as a "quality person," and his impression is that using quality measures and physician reporting tools is a more important criterion for Berwick.

North American Spine Society (NASS) President Ray Baker, M.D., told us that advancing the discussion on value is a high priority for his society. "We will work with Dr. Berwick to continue these efforts."

Baker said NASS members believe that comparative effectiveness (CE) should remain a scientific process and the society supports steady funding for such efforts. He said policies coming out of CE should permit individualized treatment and should not be used to influence coverage decisions.

Baker added that providers should be protected from medical liability claims if CE guidelines are followed.

Moving forward, Baker said NASS hopes that Berwick will use these principles as a foundation in the pursuit of comparative effectiveness research.

## Conservative's Best Friend

"Berwick, whether they [conservatives] know it or not, is one of the best friends they could have in the administration. That's because insofar as Berwick is a radical, he's a radical in favor of a patient-centered health care system—a position that has traditionally been associated with conservatives, not liberals," wrote Klein in the *Washington Post* story titled, "*The Conservative Case for Don Berwick*."



Klein continued: "An overarching aim for an ideal practice [is] that its patients would say of it, 'They give me exactly the help I need and want exactly when I need and want it,' writes Berwick. He means it. When a patient wants someone in the room and the doctor doesn't, Berwick believes the patient should win."

## Berwick Patient-Centeredness Proposals

1. Hospitals would have no restrictions on visiting—no restrictions of place or time or person, except restrictions chosen by and under the control of each individual patient.

2. Patients would determine what food they eat and what clothes they wear in hospitals (to the extent that health status allows).

3. Patients and family members would participate in rounds.

4. Patients and families would participate in the design of health care processes and services.

5. Medical records would belong to patients. Clinicians, rather than patients, would need to have permission to gain access to them.

6. Shared decision-making technologies would be used universally.

7. Operating room schedules would conform to ideal queuing theory designs aimed at minimizing waiting time, rather than to the convenience of clinicians.

8. Patients physically capable of self-care would, in all situations, have the option to do it.

"I suggest that we should without equivocation make patient-centeredness a primary quality dimension all its own, even when it does not contribute to the technical safety and effectiveness of care," writes Berwick.

Klein concludes that there is much in Berwick's vision that conservatives will find appealing.

"The reality of the situation is that Barack Obama just put an advocate for a patient-centered health care system in charge of much of health care reform. Conservatives have scored a big win here, even if they don't know it yet."

Where you stand on whether or not Berwick is a medical socialist boogeyman or whether he is the right guy to fix the federal health care budget, depends on where you sit. Right now the man in the Oval Office has the chair that counts.

We found that Donald Berwick, M.D., will not fit neatly into anyone's political caricature. But for those who love political theater, cheer up. Even recess appointments eventually have to go through congressional approval. The show will go on. ◆

# Post-Game Wrap-up: AOSSM

By Jacqueline Rupp


*AOSSM 2010 Final Program/AOSSM*

The American Orthopaedic Society for Sports Medicine (AOSSM) held their 2010 Annual Meeting just a week and a half ago, from July 15-18 in the "ocean state" of Rhode Island at the Rhode Island Convention Center in Providence. Designed to spotlight research in orthopedic sports medicine, this year's gathering offered up some intriguing studies. And then of course there were the awards and general society housekeeping that takes place at these sort of affairs. This year was no different, with a dozen honorees that we counted and the introduction of a new president to the society. If you didn't attend, sit back and enjoy the happenings, only missing out on the coastal New England sea breeze.

## New Coach for the Team

At the annual meeting a new president for the AOSSM was installed. Robert A. Stanton, M.D., is the chairman and managing partner for Orthopaedic Specialty Group, P.C. in Fairfield, Connecticut. Working with the AOSSM is nothing new for Stanton as he's sat on the Board of Directors, Medical Publishing Board of Trustees and Council of Delegates.

Interestingly enough, Stanton, while in medical school, studied at the School of International Affairs at Columbia, focusing on diplomacy, a skill that will undoubtedly come in handy as AOSSM president. Presently, the Clinical Instructor of Orthopaedic Surgery at Yale University School of Medicine, Stanton is the Senior Attending Physician at Bridgeport Hospital and on staff at St. Vincent's Medical Center and Fairfield Surgery Center.

Although Stanton is currently team physician for numerous local teams, he was also a physician at the Lake Placid Winter Olympics in 1980 and for some 30 years has offered up his physician services to the U.S. National Ski Team.

## Meet: Mr. Sports Medicine 2010

With a name like Champ, it seems obvious Champ L. Baker, Jr., M.D., is perfectly suited to be serving in the world of sports. The Georgia-based orthopedic surgeon was awarded the 2010 Robert E. Leach Mr. Sports Medicine title on the third day of the conference. Given to a doctor who has made a significant contribution to the field of sports medicine, the award carries with it a $5,000 donation to the winner's charity of choice.

Currently staff physician at The Hughston Clinic in Columbus, Georgia, and Clinical Assistant Professor at the Medical College of Georgia, Baker also chairs the Board of Directors at

*Rhode Island Convention Center at Night/ Rhode Island Convention Center*

**"Part of the goal of this gathering isn't just to share current research, but to expand and inspire further work in orthopedic sports medicine."**

The Hughston Foundation, while teaching at Tulane and the Medical College of Georgia.

As a past AOSSM president, Baker has also served as team physician for the University of Alabama, and is now team physician for Columbus State University. And Baker took his practice international, as a volunteer physician for the U.S. Olympic Committee.

## An All-Star Roster

Other honorees included the "Ski Safety Pioneer," Robert P. Mack, M.D., who was inducted into the society's Hall of Fame over the weekend. Mack is synonymous with ski safety after his research led to an internationally accepted mechanism that works to test ski bindings. This research snowballed (excuse the pun) when it was shown that none of the ski bindings on the market were safe. We all owe Mack some thanks for this project which led to the creation of ASTM (American Society of Testing and Materials) a familiar acronym that can be found on thousands of products for purchase. And skiers benefited directly as well, with alpine skiing tibia fractures being cut down to almost zero, thanks to these findings and the resulting change in practices.

Finally, Dr. Mack created in association with the Rainbow Sports Medicine Center a junior athletic trainer program for high school students who attend inner city schools. This program allows these young athletes to have care from sideline trainers, a virtually unheard of perk for underserved youth.

Part of the goal of this gathering isn't just to share current research, but to expand and inspire further work in orthopedic sports medicine.

This translates to eight research awards (NCAA Research Award, AJSM Systematic Review Award Excellence in Research Award to name a few) and two grant awards over the weekend. Here's a quick rundown of what to look forward to from these grants:

**2010 Young Investigators Grant**—Demetrios Delos, M.D., orthopedic resident at the Hospital for Special Surgery in New York City is evaluating platelet rich plasma (PRP) and this controversial therapy's effects on skeletal muscle healing, including what effect PRP has on the body's post-injury inflammatory response.

**2010 Sandy Kirkley Clinical Research Outcome Grant**—EERAADS is the second of a two-part investigation by Daniel B. Whelan, M.D., MSc, FRCSC, Assistant Professor for the Division of Orthopedics at St. Michael's Hospital, University of Toronto. The study is looking to find out about the efficacy of external rotation (ER) immobilization after an initial shoulder dislocation. Could

the immediate application of an ER brace help speed recovery? This study should help us answer that question.

## Emerging Sports Medicine Science

And now on to what we've all been waiting for, the new research! We've highlighted a few already in our news shorts (http://ryortho.com/largeJoints.php?news=641_InOffice-ACL-Risk-Assessment), but there are close to 60 abstracts in all that you can sift through here(http://www.sportsmed.org/secure/reveal/admin/uploads/events/2010%20AM%20ABSTRACTS%20%20Podium.pdf). We've pulled out a few interesting scientific presentations for your enjoyment below:

- **Major League Baseball Pitchers 34% more likely to suffer field injuries than other players**—This review of professional baseball player injuries from 2002 to 2008 has some interesting data to it. For instance 77% of the injuries to pitchers happen *before* the All-Star break. Why is that? Maj., Matthew Posner, M.D., orthopedic surgeon at the William Beaumont Army Medical Center in El Paso, Texas, says really little research has been done into the epidemiology of professional baseball players. A noteworthy detail of this study is that an Internet web site of disabled list data was used to compile the stats. Fielders didn't come off injury-free of course, they just appear to have a greater proportion of lower extremity injuries. And speaking of the All Star Game…which division do you think suffers from more injuries? The answer is a surprisingly balanced distribution, so no winner or loser here.

## ACL Reconstruction: Double-Bundle Versus Single-Bundle

Here is a randomized clinical and MRI study with a two-year follow-up time that looked at which technique has the better outcomes. Timo J. Jarvela M.D., Ph.D. of Finland looked at 136 patients and used blind evaluation methods such as clinical examination, the pivot shift test, KT-1000 arthrometric measurements, International Knee Documentation Committee (IKDC) and Lysholm scores, plus MRIs. The findings showed that the double-bundle reconstruction method exceeded the singular method, with these benefits noted:

- significantly less graft failures
- better rotational and anterior stability
- better IKDC final scores.

*Tim Lincecum Pitching/Wikimedia Commons*


*AOSSM 2010 Final Program/AOSSM*

However the caveat is that no differences were detected in the Lysholm, nor IKDC function scores.

## Questioning ACL Prevention Methods

There has been a major push in the last decade for ACL injury prevention programs to come into play, especially for female athletes who are at a much great risk for such tears. But Kevin G. Shea, M.D., of Intermountain Orthopaedics in Boise, Idaho, has created a study that calls these methods into question. Looking at medical databases and focusing on ACL injury data, Shea and his team found no randomized prospective evidence to show these types of preventative exercise programs reduced the risk of these types of knee injuries. Non-randomized prospective surveys fared better with 7 out of 12 studies showing reduction in injuries, but it was also noted that these studies had significant design flaws. The study does offer a counter argument to the hype surrounding preventative exercises, forcing the sports community to look for hard evidence of efficacy, instead of feel-good solutions.

Space doesn't allow us to review all of the interesting papers and presentations but there was a lot to chew on this year. Next year's meeting is scheduled for July 7, 2010 in San Diego, California. Whether it is new procedures, biologics or a better understanding for existing techniques, the AOSSM is one of the most important meetings of the year. ◆

# Learning the Lab: Part Two

By Elizabeth Hofheinz, M.P.H., M.Ed.

*In January 2010 OTW interviewed Dr. Jonathan Barnwell about his year with his research mentor, Dr. Zhongyu Li. We are back and have an update as the year Drs. Barnwell and Li spent together comes to a close.*

The new biomaterial or implant that you use with your patients today began its life as a thought bubble in someone's head…someone who dared to say, "What if?" That someone was a researcher.

Dr. Jonathan Barnwell, an orthopedic resident at Wake Forest University School of Medicine, was a recipient of a 2009 Resident Clinician Scientist Training Grant from the Orthopaedic Research and Education Foundation. Dr. Barnwell is researching nerve regeneration under Zhongyu Li, M.D., Ph.D., Assistant Professor of Orthopaedic Surgery at Wake Forest University School of Medicine. Dr. Li is Dr. Barnwell's mentor.

*Deutsches Bundesarchiv/Wikimedia Commons*

Commenting on his experience over the last several months, Dr. Barnwell states, "During the first half of the year my role was largely one of project management. Lately, however, I've had more responsibilities in the grant writing arena. It has completely 'brought home' the fact that writing grants is a real determinant of success—no resources, no research. In taking on this new role, Dr. Li was rather 'hands off,' i.e., he stepped back and waited to see what I came up with. He helped me focus my thoughts and ensured that I kept my points succinct." Ignorance is bliss…but not if you want to get something done. Dr. Barnwell: "In the past I was blissfully ignorant of budgetary issues. Now I can see, for example, that if you are going through the methods section you must step back and say, 'OK, this was a good idea but is it feasible from a budgetary standpoint?' Mine was a small grant, but as grants get larger you must consider salaries, resources equipment, etc."

Illustrating the hazards of ignoring monetary matters, Dr. Barnwell says, "Let's say you want to measure how fast and at what point Schwann cells proliferate. The easiest way to do this is to eliminate something from the animals' diets, meaning that you have to plan for X number of animals for X number of days and at X number of points in time. If your budget cannot accommodate these things you may have to change your questions or change your methodology. Whatever you do, remember that you don't want to have doubt cast on the results. You can tell when researchers try to cut corners. There is always a flashier way to do it and a barebones

**"In the past I was blissfully ignorant of budgetary issues. Now I can see, for example, that if you are going through the methods section you must step back and say, 'OK, this was a good idea but is it feasible from a budgetary standpoint?"**

> "It was a great lesson: be sure that what you are proposing is doable."

*Deutsche Fotothek/Wikimedica Commons*

way; it is important to balance things out and to determine what the threshold is in the literature. For example, using nucleotide analog labels in DNA will make it fluoresce (but is expensive). The other option is to treat the antibodies with a number of chemicals, which is about five times cheaper than the analog route."



Also to the points of running a realistic project and maintaining one's reputation, Dr. Barnwell notes, "Even if your idea is simple there are details that can arise which may make the project harder. For example, we found that there are inflammatory cells that arise in the early stages of nerve regeneration. Our goal was to count the cells but we soon found that there were multiple ways to do this. Our initial approach was standard flow cytometry, but then we realized that we may not be able to get a statistically meaningful result. It was a great lesson: be sure that what you are proposing is doable."

He adds, "You should rely on people in the literature who have gone before you and try to adapt protocols from projects that are similar to yours. But be mindful that there are often subtle differences that can have huge ramifications if you do not take these details into account. In the end, it is your reputation on the line."

The methodical approach to research is already inherent in the makeup of most doctors, says Dr. Barnwell. "Physicians are accustomed to being consistent. For example, we do history and physical exams the same way with every patient. But in the research arena, it is easy to get in a rush and be excited about your idea. Dr. Li has emphasized the point that while you may think you are ready to answer the research question right away, you must build your case slowly so that it is easier to go from idea to paper. You're going to have to prove to reviewers that you can answer the question. It is important to remember that there are a lot of parties competing for limited

**"It is important to remember that there are a lot of parties competing for limited funding…and that many people may be asking questions similar to yours. I advise working with other investigators who have been 'in the game' longer so as to strengthen your application and bolster your confidence."**

funding…and that many people may be asking questions similar to yours. I advise working with other investigators who have been 'in the game' longer so as to strengthen your application and bolster your confidence."

He is also a proponent of removing blinders. "If you're very excited about your approach you may fail to build in contingencies. That is a mistake, however—you should always plan for what you will do if things go wrong. For example, in looking at different biomaterials that might work with nerve regeneration, I had originally allotted three months for the experiments. Then I realized that the more interesting questions may take longer than three months to answer. It turned out to be closer to five months. The lesson: if you're not sure what the end result will be then you should be ready to adapt your methods."

While many residents undertake summer research projects, the experience is often an intellectual exercise as opposed to one that feels practical. Dr. Barnwell: "Even if residents get a taste of research during the summer months they are not able to see the broad ramifications of their efforts. You can't really understand how the research will ultimately benefit the patients. I am fortunate to have been able to do this full year, beginning with a thorough planning process, then animal trials, to be followed by human clinical trials. It has set the stage for the remainder of my career."

Dr. Zhongyu Li, whose skills and guidance are now imprinted on Dr. Barnwell, states, "We are truly fortunate to have someone like Dr. Barnwell, who is bright, honest, and hard working. He has demonstrated tremendous initiative, works independently, and has learned as much as he can about peripheral nerve injury so that he can address the challenges in this field."

Shedding light on the unique opportunities available at Wake Forest, Dr. Li notes, "The orthopedic physician scientist program was established 11 years ago by our former chair Gary Poehling, M.D. and our current chair, L. Andrew Koman, M.D. The goal of this unusual program is to identify and nurture future orthopedic surgeons who are interested in academic medicine. Our greatest strength is the support we receive from the basic science and clinical faculty. I am proud that our research residents have been awarded a number of grants and patent applications, including six grants from the Orthopaedic Research and Education Foundation, two grants from the Orthopaedic Trauma Association, and two grants from the Arthroscopy Association of North America."

**"Overall, the fundamental thing is that one must remain focused, especially when experiments are going well. When experiments are not going smoothly, it is important to think, 'What is wrong with my approach and/or design?' instead of, 'Why am I doing this research?"**

Commenting on some of the issues that arise when teaching someone how to become a solid investigator, Dr. Li explains, "Today, few researchers have all the knowledge and resources to develop translational, multidisciplinary research programs. Therefore, it is most productive to work as a team. We teach our physician scientists the importance of establishing collaborations with both basic scientists and clinicians in other laboratories who can design the most effective experimental protocols to approach research questions. Overall, the fundamental thing is that one must remain focused, especially when experiments are going well. When experiments are not going smoothly, it is important to think, 'What is wrong with my approach and/or design?' instead of, 'Why am I doing this research?'"

If handed the megaphone, says Dr. Li, he would want it known that mentorship is invaluable—especially during the early stages of one's professional career. "We need someone who is knowledgeable and experienced in the research field to give us guidance and support when we are frustrated, and to remind us to stay focused when we are excited."

Alas, where are these people? "There potentially are many great research mentors in our orthopedic community. However, as practicing surgeons, our effectiveness in mentoring young clinician scientists is often hampered by time constraints and limited research funding. We need more people to step up and guide our future orthopedists to develop their interest in research."

Dr. Li concludes, "Mentoring orthopedic residents in clinically-relevant research is a tremendous experience that is personally rewarding. The residents are brilliant people with unlimited potential. As mentors, we are privileged to work with these individuals, and to foster and guide their creativity. The satisfaction that the mentor receives as the residents mature and present their work in publications and at national and international meetings is unmatched. Finally, working with young investigators provides the opportunity to be challenged and invigorated by the residents' new ideas and approaches to problems. Their thought provoking questions stimulate us to explore and more the field forward." ◆

company

## DePuy Mitek Launches Repair/Anchor Systems

*Omnispan Meniscal Repair System/DePuy Mitek*

DePuy Mitek launched two new products at the recently completed American Orthopaedic Society for Sports Medicine (AOSSM) 2010 Annual Meeting.

The products are the Omnispan Meniscal Repair System for all-inside repairs of meniscus tears and Versalok PEEK, a nonmetallic, self-punching rotator cuff anchor that is 100% radiolucent and knotless.

**Omnispan Meniscal Repair System**

The meniscal repair system, according to a company announcement, features a low-profile needle pre-loaded with two PEEK backstops and proprietary Orthocord suture for enhanced strength. Testing, according to the company, has shown that the system provides superior strength compared to leading all-inside devices.

The Omnispan System includes a disposable applier and needles available in three angle options for repair in horizontal, vertical or oblique configurations. With the active deployment provided by the applier, surgeons can release backstops with accuracy. Rather than plunging to the back of the meniscus to deploy, this system barely penetrates the back of the meniscus, minimizing needle exposure.

**Versalok Rotator Cuff Anchor**

A company announcement says the new Versalok anchor eliminates the need to pre-awl a pilot hole (except in very hard bone), will not interfere with MRI scans and allows sutures to be affixed more quickly because knot-tying is not required. The knotless anchors are designed for maximum pull-out strength compared to other knotless PEEK anchors on the market.

The Versalok system includes the anchor and a #2 Orthocord suture. A reusable deployment gun allows for appropriate tensioning of the suture and is compatible with both Versalok and Versalok PEEK knotless anchors. The system is indicated for use in shoulder, knee and elbow procedures.

"I've used Versalok PEEK in several cases and feel very confident using it for rotator cuff repairs, even in patients with softer bone quality," said Scott A. Sigman, M.D., one of the first users in the country and the team physician for the U.S. Ski Jump Team, team physician for UMASS Lowell and Chief of Orthopedics at Lowell General Hospital in Lowell, MA. "These anchors are versatile and provide secure fixation with procedural efficiency."

*—WE (July 23, 2010)* ◆

*Wikimedia*

## Zimmer Closes the Gap

Zimmer reported a 3.7% increase in sales to $1.06 billion for the second quarter of 2010.

While the sales number came in shy of analyst's expectations, margins improved and earnings beat expectations.

David Dvorak, Zimmer's President and CEO, said, "Our second quarter performance was characterized by…continued introduction of important new products and instruments. We anticipate accelerated growth through 2010."

| Zimmer | 2Q10 | |
|---|---|---|
| | Sales ($ in millions) | % Change |
| Net Sales | $1,060 | up 3.7% |
| Reconstructive | $808 | up 4% |
| Hips | $317 | up 3% |
| Knees | $453 | up 4% |
| Spine | $58 | down 10% |
| Extremities | $38 | up 13% |

*Source: Zimmer*

On a reported basis, knees were up 4%, hips rose 3% and extremities improved 13%. The stepchild in the group was spine, which declined by 10% due to continued reimbursement issues with the Dynasys system.

Dvorak said the company noticed a procedural "step-down" in hips and knees for the quarter, but cautioned analysts not to focus on just one quarter.

**Closing the Hip and Knee Gap**

BMO Capitol Markets analyst Joanne Wuensch said that while the company's hip and knee sales continue to lag the market growth rate, the gap appears to be closing. She said new product traction should help close the gap even further. Some of those new hip products include the recent launches of two new Acetabular Cup systems in the U.S. (approved in November 2009)—the Continuum Acetabular Cup offering surgeons increased flexibility in the form of multiple bearings and a MMC metal-on-metal large head cup system.

For knees, Wuensch said that traction with patient-specific instrument sets (PSI) will more likely be realized in the fourth quarter, contributing to further share gains as physicians are trained and MRI centers are qualified.

**China**

China was also on Dvorak's mind during the quarter as he announced the acquisition of Beijing Montagne Medical Device Co., a manufacturer and distributor of orthopedic implants.

Given China's plan to spend $125 billion to create a health insurance system over the next few years, Wuensch said companies are eager to gain a foothold in a market with 1.3 billion people and a rising standard of living. She said Zimmer is one of the first companies (joining Smith & Nephew and Medtronic) to set out a strategy with the acquisition.

Dvorak said the transaction makes Zimmer the largest manufacturer of reconstructive orthopedic products in China. The musculoskeletal market in China, according to Wuensch, is estimated to be ~$1 billion (composed of one-third hips & knees, just over one-third trauma, and the balance in spine). Dvorak expects that market to double within three years.

*—WE (July 23, 2010)* ◆

## Stryker's MacMillan Stays Calm

Steve MacMillan, Stryker's Chairman, President and CEO (the CPCEO) tried to calm the swarming mob of Wall Street analysts on July 20. The mob had just descended on MacMillan after their fretting over Biomet and DePuy's disappointing spine numbers and slowing orthopedic revenues.

"We're on track," said MacMillan, "Our second quarter results reflect the underlying strength of our diverse product offering and global presence, which is allowing us to continue to deliver on the goals we outlined at the start of 2010."

**MedSurg Up, Ortho Slow**

Stryker's 2010 second quarter reported sales rose by 7.6% to $1.758 billion. The company's MedSurg business grew a whopping 16.4% to $722 million, while Ortho Implants only increased by 2.2% to $1.036 billion.

**Hips, Knees and Spine**

Reported revenue:

| | |
|---|---|
| Hips: | up 3% |
| Knees | up 1% |
| Spine | flat |


*Morguefile.com/modified by RRY Publications LLC*

### No Structural Market Changes

MacMillan said he believed the hip and knee markets were a mid-single-digit growth business and was optimistic that knee and hip revenues would rebound with new product introductions. He added that the company wasn't seeing any structural changes in the market and that there may have been an "ever so slight" market slowing in the second quarter.

Jefferies analyst Raj Denhoy believes Stryker's slowing sales growth for hips and knees was specific to the company. He noted Stryker's performance was in contrast with Biomet's good performance and DePuy's "largely inline" average results.

For hips, MacMillan said the company is hoping to take advantage of controversies in the metal-on-metal hip market with its ADM mobile bearing and Rejuvenate modular hips. He believes these products are "at the right place, at the right time." In knees, MacMillan was downright giddy about the introduction of the "shape changing and game changing" OtisMed surgical guide device currently under review by the FDA for 510(k) clearance.

### Spine Competition

For spine, MacMillan noted some delays in reimbursement by payers, competitive pressures and delays in new product introductions. The company expects to introduce two new cervical plates this year.

*In an aside, MacMillan said he hated to say this, but some of the larger players in spine with tough compliance programs appeared to be having a harder time keeping market share.*

The CPCEO (MacMillan) was particularly happy to announce that the company's "quality journey" was also on track, as he announced the resolution of the two remaining FDA warning letters related to their hip production facilities. He noted the company would now be able to redirect spending to more traditional R & D functions or the costs associated with the healthcare reform law.

When the market opened on July 21, Stryker shares dropped almost 8% to around $47 per share. Company profits met analysts' expectations but missed revenue expectations by around $20 million.

*—WE (July 21, 2010)* ◆

## DePuy's 2Q10 Slowdown

*Ariadna / Morguefile.com*

Sales growth for DePuy slowed in the second quarter, according to Wells Fargo Senior Analyst Larry Biegelsen. DePuy's reported sales for the quarter rose 3.9% to $1.375 billion.

DePuy's parent, Johnson & Johnson, was the second orthopedic company to report second quarter revenue for 2010. Biomet was the first.

If these two are any indication, spine revenue is in the dumps. While Biomet reported only a 1% increase in sales, DePuy's operational spine sales were flat worldwide and actually declined in the U.S. by 4%.

During a quarterly conference call with analysts, the company attributed the poor spine number to softness of procedural volumes and continued pricing pressure. Company officials cited a tougher reimbursement environment with private payers.

Hips and knees fared better than spine as operational sales numbers increased 6% and 5%, respectively.

In comparison, Biegelsen stated that Biomet reported global hip, knee and reconstructive (ex dental) operational growth of 8%, 13% and 10%, respectively, for the quarter ended May 31.

Overall, Johnson & Johnson's Medical Device and Diagnostic division, where DePuy resides, reported a revenue increase of 4.1% to $6.1 billion.

Dominic Caruso, J&J's CFO commented on widely reported government austerity measures in Europe, highlighting that such measure were impacting pharma, not device sales.

With Medtronic and the other Sisters of Ortho still to report, DePuy and Biomet's early warning signs will be carefully noted.

*—WE (July 20, 2010)* ◆

large joint

## MI Surgery…Return to Play!

*U.S. Army/Wikimedia Commons*

If you were once a star running back, you could get there again, say researchers from Rush University Medical Center. This team has determined that using minimally invasive arthroscopic surgery to treat hip disorders may give athletes who undergo the procedure another opportunity to resume their sport at their pre-injury level of competition.

The Rush group found that 78% of athletes suffering from hip labral tear caused by internal ball and socket joint damage to the hip (known as hip femoroacetabular impingement (FAI)) were able to return to their sport within an average of a little more than nine months following a hip arthroscopy. Also, 90% of the athletes were capable of competing at the same level as they had prior to their initial hip impairment.

"Arthroscopic hip surgery is an outpatient procedure that can decrease soft tissue trauma and decrease blood loss, leading to a faster recovery period compared to a more invasive open surgery," said study lead investigator Dr. Shane J. Nho, in the news release. Dr. Nho is a sports medicine and hip arthroscopy expert at Rush University Medical Center. She also is an assistant professor of orthopedic surgery and co-head of the Hip Study Group at Rush University.

Forty-seven high-level, college and professional as well as high school varsity athletes in a wide range of sports were included in the study. All patients underwent arthroscopic surgery and were tracked for an average of 16 months.

All patients involved were diagnosed with femoroacetabular impingement, a condition that occurs when the femoral head of the thigh bone rubs abnormally against the acetabulum, or cup-like socket of the hip joint. This rubbing results in damage to the rim of the hip socket as well as the cartilage that covers the hip bones.

When asked what the team was surprised to learn, Dr. Nho told *OTW*, "The outcomes were not surprising. Patient clinical outcomes have demonstrated more predictable results with improved patient selection, surgical technique, and post-operative rehabilitation. Most importantly, our understanding of hip FAI has grown tremendously over the past several years, but there is much more that still needs to be learned."

Dr. Nho also commented to *OTW*, "We will continue to track our clinical outcomes in athletic and non-athletic patient populations, but the real question will be the long-term ability for hip arthroscopy to delay the progression of hip osteoarthritis. We are also planning to study the gait patterns in patients before and after hip arthroscopy for FAI."

*—EH (July 23, 2010)* ◆

## In-Office ACL Risk Assessment

Toss the technology and bring in the measuring tape…Researchers have found a low-cost, in-office method of determining which athletes are at high risk for ACL injuries. This means, they say, that assessments involving complex laboratory-based motion analysis systems, such as those used in creating video games, are unnecessary.

"ACL injuries are devastating to athletes, and the risk factor for female athletes is much higher," said Greg Myer in the news release. Myer, a sports biomechanist at the Cincinnati Children's Hospital, added, "In an earlier study, we used motion analysis systems to measure and calculate torques on ligaments which accurately predicted which athletes are high-risk, but this method was expensive, labor intensive and required sophisticated equipment. So in this study, we looked for a low-cost, in-office, simpler method to predict which athletes are high-risk."

The simplified method combines measuring the tibia using a standard measuring tape and an athlete's weight in combination with motions of the knee during landing captured with standard camcorders. The in-office method strongly correlated to the expensive laboratory method.

"This method may be used as a training camp protocol in partnership with team clinicians or set up and run in the athletic training setting," added Myer. "Current evidence indicates that athletes identified as high-risk for ACL injury using this approach are more responsive to neuromuscular training aimed at reducing this risk factor. This tool can also be used to get high-risk athletes into appropriate interventions to further reduce their potential of injury risk which may increase both the efficacy and efficiency of future interventions aimed to prevent ACL injury in female athletes."

Myer told *OTW,* "We previosuly published a report showing that females categorized as high-risk based on their landing knee loads decreased the magnitude of this previously identified risk factor for ACL injury following neuromuscular training, while control and those with low knee loads did not show any similar changes with training. However, the mean values for the high-risk subjects were not reduced to levels similar to low-risk categorized group following training. Thus, the potential of the presented tool to help target the appropriate treatment to female athletes who demonstrate high-risk knee abduction loads during dynamic tasks will likely improve efficacy of neuromuscular training."

He also commented to *OTW*, "We encourage physicians to employ this tool as a screen to influence those at potential risk for ACL injury to get involved with training designed to reduce risk factors. We would also encourage physicians in charge of preseason physicals to partner with the school's athletic trainer who would be equipped to both perform the screening and direct neuromuscular training interventions to those at high risk."

*—EH (July 20, 2010)* ◆


*Tomasz Sienicki/Wikimedia Commons*

## ACL Surgery Good for Kids

*Kids playing in the summer/Creative Commons*

So the headline of millions in savings for hospitals is an eye catcher. Early ACL reconstruction surgery for pediatric patients could have the potential to save U.S. hospitals $30 million a year! But there's another part of the research that's equally important.

According to the study from Children's Hospital of Philadelphia (CHOP), thousands of secondary injuries could also be prevented by opting for the surgery and not waiting.

This study, presented on July 19 at the American Orthopaedic Society for Sports Medicine's (AOSSM) Annual Meeting in Providence, Rhode Island, points out the need for early, instead of delayed, ACL reconstructions.

The statistics are pretty staggering. The CHOP team noted 7,300 tears to the meniscus and 7,800 cartilage injuries that could have been avoided had the surgery been offered earlier. Although sometimes controversial, particularly for the risk of growth disturbances, this study highlights that the positive benefits of ACL repair surgery prior to skeletal maturity may outweigh any risks.

This review looked at 14 years of data to survey the results of treatment options. Meniscal and cartilage was 4 to 11 times more likely to be injured after the initial ACL damage if surgery was delayed by more than 12 weeks.

From there the researchers were able to create a model based on such data and created two theoretical groups of 100,000 patients which then "underwent" either early or delayed ACL surgery. Out of this experiment, figures for extra hospital charges and additional injuries were amassed.

It is interesting to note that in the model study, boys were largely more likely to suffer additional injuries, than girls.

*—JR (July 19, 2010)* ◆

people

## Jose Fernandez Joins Symmetry

*Jose Fernandez, SVP of New Product Development*

A patently smart move…Symmetry Medical, Inc. is announcing the appointment of Jose Fernandez, who has either been granted or awarded ten patents throughout his career, to the newly created position of Senior Vice President of New Product Development. Fernandez's product development and management experience came in part from his time as Vice President of Research and Development with Disc Motion Technologies, as well as several positions with Cordis Neurovascular, a Johnson & Johnson company.

"We welcome Jose to the Symmetry Medical family and look forward to his future contributions to our growing product development portfolio," stated Brian Moore, President, and Chief Executive Officer of Symmetry Medical, in the news release. "Symmetry's strong OEM relationships and direct sales channel to specialty surgeons through our SSI subsidiary positions the company to benefit from an expanded offering of proprietary surgical products. This appointment demonstrates our commitment to these customers and strengthens our position as a diversified and leading company in the medical device industry."

Fernandez told *OTW*, "My patents represent both the cardio and orthopaedic device industries, with significant concentration in implantable stents (cardio) and modular hip prosthesis (ortho). It is my hope that my expertise and experience in the spine industry will boost Symmetry Medical's innovation in the orthopaedic product development market, and that my diversified portfolio will spur future growth opportunities in additional medical device markets. My background in OEM product development and focus in the spine industry should help move as I lead the global multi-channel operations with a concentrated focus on increasing the presence of our products in Asia."

Concerning the company's future portfolio, Fernandez commented to *OTW*, "Our customer base continues to demand innovative technologies from their supply chain partners. My goal is to help Symmetry continue to provide the solutions required to meet this demand and maintain our leading position within the medical device development market."

*—EH (July 22, 2010)* ◆

## New AOSSM President: Dr. Robert Stanton

*Robert A. Stanton, M.D.*

It takes a diplomat to run any organization…now, the American Orthopaedic Society for Sports Medicine (AOSSM) has one. Robert A. Stanton, M.D., the Chairman and Managing Partner of Orthopaedic Specialty Group, P.C. in Fairfield, Connecticut, has been installed as the 39th president of the AOSSM.

Dr. Stanton has served on multiple AOSSM committees, including the Board of Directors, Medical Publishing Board of Trustees and Council of Delegates. Dr. Stanton also holds membership in the Connecticut State Medical Society (CSMS), Yale Orthopaedic Association (YOA), Fairfield County Medical Association (FCMA), the International Society for Arthroscopy, Knee Surgery & Orthopaedic Sports Medi-

cine (ISAKOS) and the Arthroscopy Association of North America (AANA).

After graduating from Williams College in 1968, Dr. Stanton completed Columbia University College of Physicians and Surgeons in 1972. While in medical school, Dr. Stanton spent one year as the Edward John Noble fellow in the School of International Affairs at Columbia, allowing him to pursue his longtime passion in international diplomacy. He was a surgical intern and resident at Columbia Presbyterian Medical Center from 1972 to 1974. Dr. Stanton completed his orthopaedic residency at Yale University in 1977.

Dr. Stanton is the Clinical Instructor of Orthopaedic Surgery at Yale University School of Medicine, and serves as Senior Attending Physician at Bridgeport Hospital and as staff at St. Vincent's Medical Center and Fairfield Surgery Center. He is Team Physician for Fairfield University's athletic teams, the Bridgeport Sound Tigers hockey team and the Bridgeport Bluefish baseball team. Early in his career, Dr. Stanton served as a physician to the 1980 Winter Olympics in Lake Placid, New York. He has been a team physician for the U.S. National Ski Team since that time. He is also a member of the medical pool for USA Gymnastics.

Dr. Stanton told *OTW,* "My goal is to maintain the tradition of acting as a steward of our society. We will continue to promote the STOP campaign. The society has enjoyed significant growth and I plan to hold a strategic planning meeting at our spring Board meeting, so that we can consolidate what we have achieved and plan for our future growth and where we will go as an organization and professional specialty. My hope for the future is that we can positively influence young kids (and adults as well) to prevent injury. The future of sports medicine is biology, not technology. I expect significant developments that will allow sports physicians to heal soft tissue and cartilaginous injuries using biologic, not surgical solutions."

*—EH (July 21, 2010)* ◆

## Marc Viscogliosi Recognized

*Marc Viscogliosi*

Marc Viscogliosi, who along with brothers Tony and John, brought the science of spinal motion preservation together with the world of investment banking, has been recognized by M&A Advisor as a winner of the publication's '2010 40 UNDER 40' awards.

The *M&A Advisor*, known for its recognition of leading M&A, financing, and turnaround professionals, created the award to promote mentorship and professional development amongst emerging business leaders.

The '2010 40 Under 40 Award' winners have been chosen for their accomplishments and expertise from a pool of international nominees by an independent judging panel of distinguished business leaders. The awards celebrate the leading 40 M&A, financing and turnaround professionals who have made great accomplishments before their fortieth year.

**Spinal Motion Preservation Pioneer**

Viscogliosi has been responsible for several key investment opportunities in non-fusion spinal devices and was one of the first Wall Street investment bankers to specialize in orthopedics. He has executed more than 190 transactions as principal or agent, buyer or seller.

He is a founder of more than 20 companies and serves or has served as Chairman, CEO, President, Founder

or Managing Member of 12 businesses and has been a board member of 15 companies, including, Paradigm Spine LLC.

**Spine Arthroplasty Society**

Prior to founding Paradigm Spine, Viscogliosi was a co-founder of and secretary of the Board of Directors of Spine Solutions, Inc. which was acquired by Synthes in 2003.

Viscogliosi was instrumental in the founding of SAS, the Spine Arthroplasty Society.

Roger Aquinaldo, CEO and founder of *M&A Advisor* said," We've been recognizing transactions and teams for their achievements over the past decade. This is the first time we will be recognizing individuals—the up and coming leaders still under the age of 40, like Marc Viscogliosi, who've been handling M&A, financing and turnaround transactions behind the scenes."

Viscogliosi graduated from New York University in 1999 with a Bachelor of Arts degree in Economics and Political Science.

We congratulate Marc for this well deserved recognition.

—*WE (July 21, 2010)* ◆

# THE PICTURE OF SUCCESS

## Dr. David M. Lichtman

By Elizabeth Hofheinz, M.P.H., M.Ed


*Dr. David M. Lichtman*

When Saddam Hussein invaded Kuwait, the USNS Mercy was there to provide assistance to American soldiers. And it was Rear Admiral David Lichtman, M.D., past President of the American Society of Surgery for the Hand (ASSH), who was in charge of outfitting the ship.

Dr. Lichtman, now Chair of Orthopaedics at the University of North Texas Health Sciences Center, and John Peter Smith Hospital in Fort Worth, came by his interest in military medicine honestly…he inherited it from his father. "I often traveled around my native Brooklyn with my dad, a general practitioner, as he made house calls. He had been an Army doctor in WWII and I recall how moving it was to see people salute him. My dad's extreme dedication to medicine rubbed off on me, as did the message that medicine could be a fulfilling way to spend one's life. As for my mom, she was old fashioned by today's standards as she used her energies to support his career and our family."

Time spent on the water, and between the pages of great literature, briefly led David Lichtman in another direction. "As a teenager I wanted to exert my independence and I swore off medicine. I spent a lot of time on fishing boats, read *The Caine Mutiny*, and decided to become a naval officer. As I was applying for the Naval Academy, however, talks with my father made me realize that in my heart I wanted to be a physician. He is the one who convinced me that I could be a part of both worlds—the military and medicine."

And he would do it without a college degree. Dr. Lichtman: "I attended Tufts College, but did not graduate because I received an early acceptance to medical school. After I accumulated a 'bank' of life accomplishments, someone wrote a letter to Tufts saying, 'Your institution never granted Dr. Lichtman a degree—and he is a Rear Admiral and was President of the American Society of Surgery of the Hand.' I received a belated degree from Tufts in 2009."

Graduating from the State University of New York, Downstate Medical Center in 1966, Dr. Lichtman moved on to the University of Minnesota. "I had joined the Navy in medical school and was actually on active duty during that time. After doing an internship at Minnesota in 'straight' surgery (they didn't have any orthopedic internships available), I then moved my family to Pensacola, and earned my Navy Flight Surgeon wings. For the next two years I flew in F4 Phantoms and took care of the pilots and their families. Part of my job was to perform aircraft accident investigations, which was very similar in concept to doing operative postmortems. You are essentially saying, 'What could we do better next time?'"

**"As I was applying for the Naval Academy, however, talks with my father made me realize that in my heart I wanted to be a physician. He is the one who convinced me that I could be a part of both worlds—the military and medicine."**

After serving as a naval flight surgeon for two years, Dr. Lichtman then headed to California for his orthopedic residency. "I was stationed at Oakland Naval Hospital during the Vietnam era, which meant that I treated a lot of amputees. I loved the sense of patriotism there, as well as the esprit de corps."

Under the sponsorship of the Navy, Dr. Lichtman undertook a hand fellowship—part private, part military—with Dr. James Wilson in San Diego. "After my exceptional training with Dr. Wilson, I boarded the USS Independence as a flight surgeon and went to the Mediterranean. There were numerous shipboard injuries, including a case where a soldier was pumping a tire and the gauge was set incorrectly and caused the tire to explode. An innocent bystander then had to have an amputation."

The next phase of Dr. Lichtman's career would involve a bit of an academic mutiny. "I was named the Chief of the hand service at Bethesda Naval Hospital and took the opportunity to start an academic practice. Why hand? Because hand surgery combines the delicacy and aesthetics of plastic surgery with the bioengineering and structural mechanics of orthopedics. Kienbock's disease, an avascular necrosis of the lunate bone in the wrist, became my particular passion. I offered up a completely new classification system that is now used worldwide. The old system required examining the lunate bone in the pathology lab under a microscopic; the problem was that you didn't have a good clinical idea of what you were dealing with so no one was using it. 'The Lichtman classification' as it is now known, is based on symptoms and X-ray."

From 'flyboy' to Chair, Dr. Lichtman was increasingly in demand. "I had almost completed my time in the Navy and was getting several offers from private practices. The Navy had a problem, however. All of those who had deferred their military service via the Berry Plan were returning to private practice, meaning that the Navy didn't have many senior people to run their training programs. They got desperate and asked me to return to Oakland and be the Chair—only four years out of residency. The program was on the rocks because a lot of faculty had left. I was 37 and was used to being a cutup and flying in jets. It was time to take a chair."

The Navy, recognizing that it had put a "green" doctor in a significant position of responsibility, checked in on him. "The Surgeon General of the Navy called me once a month for a year until it was clear that I was establishing a solid program. I was then named Director of Surgical Services and was asked to spend most of my time on administration. My passion for operating was still intact, however, so I transferred to Bethesda and became the head of orthopedics. I got them off probation, increased the number of residency slots, and was again made Director of Surgical Services."



Ready to turn in his stars for time at the podium, Dr. Lichtman was "saved" by a phone call. "At that point I had 20 years in the Navy and I figured that it was time for an academic job. I was just about to become the Chief of Hand Surgery at the University of Washington in Seattle when I received a call from a former patient—a very highly placed military man. He said, 'Your name has been put forth for consideration as an Admiral.' Two months later in January 1985 I was made a one-star admiral. Years later I learned that I was selected because I was the only person who had so much administrative *and* clinical experience."

**"Why hand? Because hand surgery combines the delicacy and aesthetics of plastic surgery with the bioengineering and structural mechanics of orthopedics. Kienbock's disease, an avascular necrosis of the lunate bone in the wrist, became my particular passion. I offered up a completely new classification system that is now used worldwide."**

*Dr. Lichtman and President Bill Clinton*

"I was assigned to the Oakland Naval Hospital and was placed in charge of all the naval medical facilities in the Pacific Northwest; later on I was also head of Letterman Army Hospital after the San Francisco Joint Military Command was established. I never gave up operating, however, something that dates back to when I was a flight surgeon on the Independence. The Commanding Officer (CO), Captain Jim Service, regularly flew with the squadrons so that he would maintain his skills as a pilot. This is an essential component of leadership…keeping close to people on the front lines."

By the time Dr. Lichtman's duty at Oakland was coming to a close, his country was in the middle of Operation Desert Storm. "I started out on the West Coast and dispatched the USS Mercy; then I was transferred to Bethesda where, six months later, I welcomed the USS Comfort home."

Leadership sometimes means keeping those in power out of the cookie jar. "After I arrived at Bethesda as CO I was made a two-star rear admiral. During this period I met two U.S. Presidents and their families when they came to the hospital for physicals and treatment…I was the official maitre d' and made VIP rounds in the evening. It was a humorous running theme that the senators and representatives would often say, 'How can we get into the presidential suite?' I would tell them, 'First you have to run for president and then get elected.'"

Finally succumbing to the siren song of academia, in 1994 Dr. Lichtman became the Chief of Hand at Baylor College of Medicine. "After four years at this wonderful institution, I was invited to John Peter Smith Hospital and the North Texas Health Sciences Center where I accepted the roles of Chair and Residency Director. During this time I was chairing several committees for ASSH; in 2005 I became president of the organization. The ASSH is a true multispecialty society, with a mix of orthopedists, plastic surgeons, and general surgeons. Something else that distinguishes ASSH is that you must have earned a Certificate of Added Qualification (CAQ) in Hand Surgery from the American Board of Orthopaedic Surgery, the American Board of Surgery or the American Board of Plastic Surgery to become a member."

And aside from the challenges of the healthcare legislation and changes in government reimbursement, what is the field of hand dealing with? Dr. Lichtman notes, "In the hand subspecialty, we are now reassessing the educational requirements for CAQ eligibility. There is some interest in either creating a two-year hand fellowship curriculum or adding more hand training into the orthopedic or plastic residency curriculum. These curricular changes—if and when fully developed—would have to be coordinated with and/or approved by multiple specialty societies and regulating authorities. We are also very engaged in supporting innovative research, especially for well-designed multicenter clinical outcome studies."

Despite professional changes, things on the home front stay the same…exciting. "My wife Frankie and I have been married for 46 years! We have many common interests, including travelling with family, opera and spoiling our chocolate lab. I love professional sports and all water activities (especially fishing and sailing). And while I like to cook what I catch, Frankie refuses to clean or cook the fish. Our daughter is an artist and our son is an attorney with NBC/Universal and lives in California. My two grandchildren are 'Hollywood types' and hope to have careers in the movie/theater industry."

Dr. David Lichtman…a star in any realm. ◆

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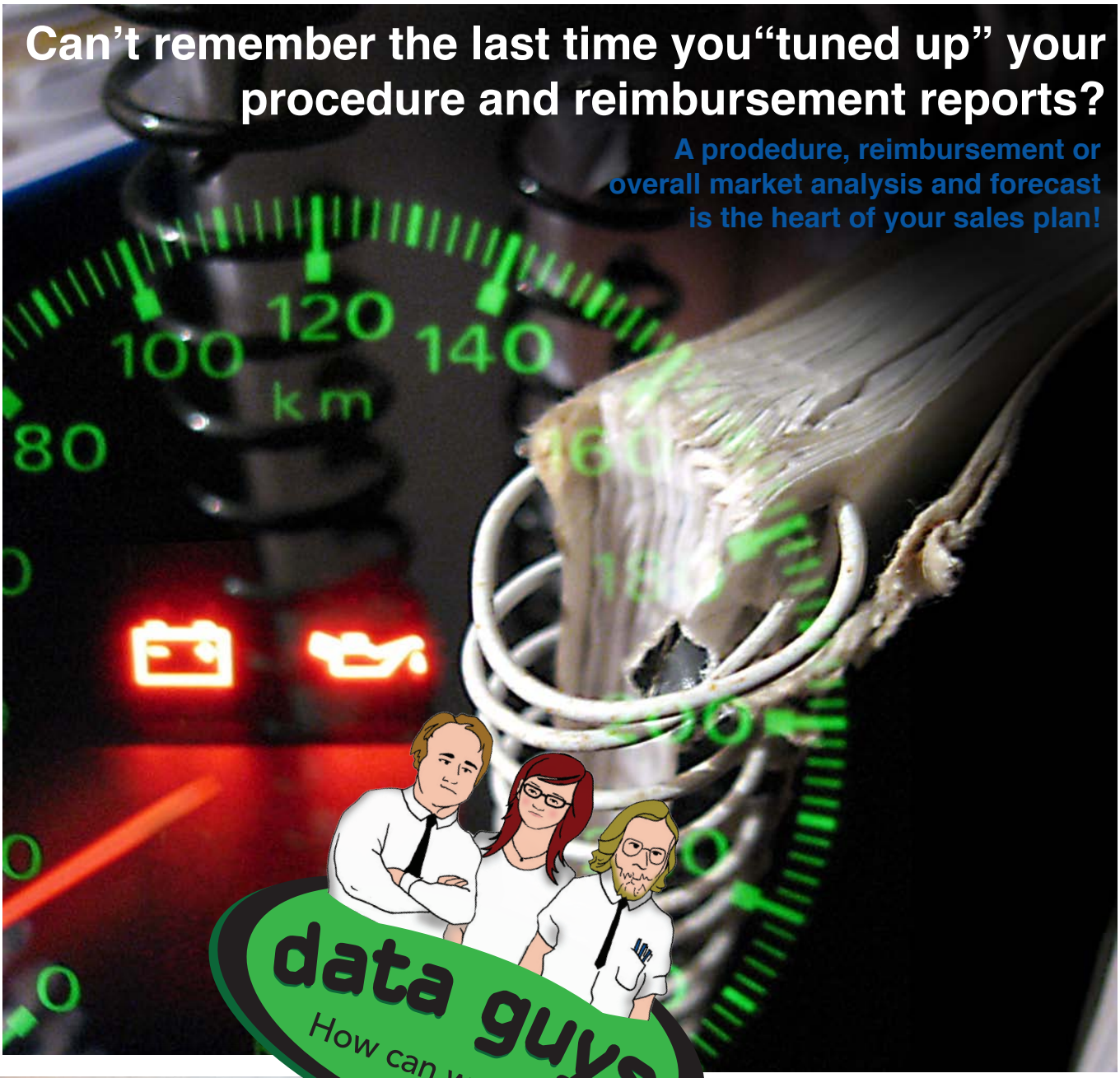


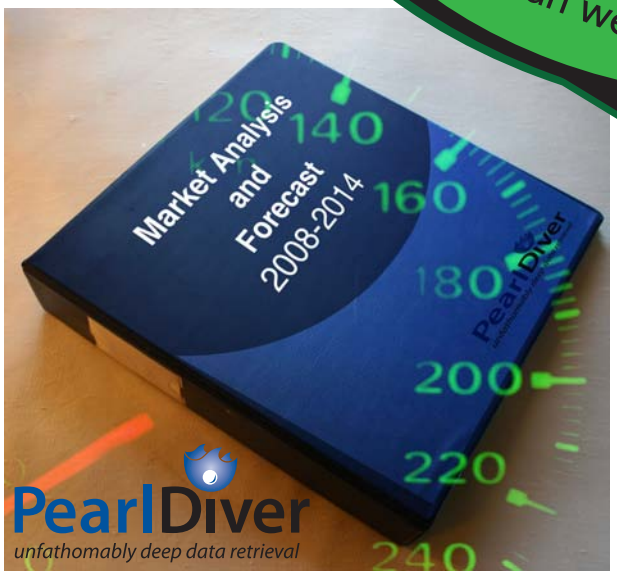


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Contact the Data Guys-Matt, Scott or Heather
260-469-4161 or Heather@pearldiverinc.com

# Orthopedics This Week | RRY Publications LLC

*Robin R. Young, CFA*
Editor and Publisher
robin@ryortho.com

*Elizabeth Hofheinz, M.P.H., M.Ed.*
Senior Writer
elizabeth@ryortho.com

*Walter Eisner*
Senior Writer
walter@ryortho.com

*Tom Bishow*
Vice President of Sales
tom@ryortho.com

*Jacqueline Rupp*
Writer
jackie@ryortho.com

*Suzanne Kirchner*
Production Manager
suzanne@ryortho.com

*Jayme Johnson*
Production Coordinator
jayme@ryortho.com

*Dana Bader*
Graphic Designer
dana@ryortho.com

*Main Contact Information:*
*RRY Publications LLC*
*116 Ivywood Lane • Wayne, PA 19087*
*TOLL FREE: 1-877-817-6450*
*Fax: 610-260-6451*