

Orthopedics This Week

week in review

4 Happy May Day, Physicians Unite ♦ Physicians are in danger of becoming “medical sharecroppers” on the “ACO Plantation” if they don’t organize and petition the government. That’s the message from a former hospital lawyer. As May Day approaches, physicians have never been more in need of collective action.

9 Stem Cell Saturday ♦ Stem Cell Saturday is just one part of this year’s Innovative Techniques in Spine Surgery Symposium in Los Cabos, Mexico. Also included this year is a comprehensive survey of new technologies, recent studies and an expanded section on the economics of spine surgery.

12 Trauma Care in the Developing World Part II ♦ More vehicular accidents and inconsistent trauma care means that those in developing countries have a long way to go as far as musculoskeletal health is concerned. The good news is that things are improving and those leading the charge are experienced.



picture of success

26 Dr. Stuart Hirsch ♦ He’s helped build AAOS and he’s helped build playgrounds. Dr. Stuart Hirsch, winner of the 2007 AAOS Tipton Award for Outstanding Leadership, helped create the AAOS playground build, and significantly advanced communication skills for orthopedists everywhere.



breaking news

- 17 DePuy IQ11: Stable, Bottomed Out**
- Stryker’s 12% First Quarter**
- Synthes and DePuy in Talks to Merge**
- UT Southwestern: New Trauma Device**
- iPod Surgical Navigation App?**
- How to Use Stem Cells to Grow Cartilage**
- 2012 Proposed CMS Payment Updates Released**

For all news that is ortho, read on.

Orthopedic Power Rankings

Robin Young's Entirely Subjective Ordering of Public Orthopedic Companies

This Week: News that Synthes and JNJ's DePuy may combine set loose a torrent of Monday morning quarterbacking throughout the industry. Who wins, who loses if these two merge? How can Synthes Spine and DePuy Spine integrate? Which distribution system wins? Will this valuation ripple through ortho?

Rank	Last Week	Company	TTM Op Margin	30-Day Price Change	Comment
1	1	Orthofix	14.49%	18.25%	Will the market just bid OFIX up already? OFIX has monopolized the top of the Power Rankings for too long.
2	NR	Johnson & Johnson	26.33	2.94	A stellar Q1, then the news breaks that DePuy and Synthes may merge. Add in a 3.40% dividend yield and JNJ vaults to #2.
3	4	NuVasive	6.69	6.82	We're betting that NUVA's direct sales force will deliver the goods this year. Up to #3.
4	5	Symmetry	8.08	10.65	Reorganization should streamline decision making. Market is rewarding SMA these days.
5	2	Alphatec	1.11	14.23	ATEC has been on a tear. Might be getting ready to take a breather. A lot is riding on Q1 report. Consensus is 21% sales growth.
6	7	Integra LifeSciences	15.18	3.15	IART gets several new products through the FDA. Sales growth only expected to be around 4.70% in Q1, however.
7	6	Zimmer	27.38	1.04	Will the fight over sales reps with Stryker have any effect? Last quarter was surprisingly strong but can ZMH keep momentum up?
8	3	Medtronic	31.23	8.74	No CEO. Arch-rivals JNJ and Synthes may merge. MDT needs some good news.
9	9	Smith & Nephew	23.22	2.45	Analysts are estimating that SNN's Q1 results will show down earnings and only 2% sales growth.
10	8	Stryker	25.61	(5.40)	Flat ortho sales last quarter. With \$4.4 billion cash maybe SYK should start buying ortho growth—like JNJ.

Robin Young's Orthopedic Universe

Top Performers Last 30 Days

Company	Symbol	Price	Mkt Cap	30-Day Chg
1 TranS1	TSON	\$5.16	\$108	64.3%
2 Synthes	SYST.VX	\$166.02	\$19,706	24.9%
3 Mako Surgical	MAKO	\$26.27	\$1,070	21.5%
4 Alphatec Holdings	ATEC	\$2.97	\$264	14.2%
5 Symmetry Medical	SMA	\$10.18	\$370	10.7%
6 Medtronic	MDT	\$41.05	\$43,900	8.7%
7 NuVasive	NUVA	\$27.25	\$1,080	6.8%
8 <i>Average</i>			\$12,279	4.3%
9 Tornier N.V.	TRNX	\$19.99	\$780	4.1%
10 Integra LifeSciences	IART	\$48.48	\$1,390	3.1%

Worst Performers Last 30 Days

Company	Symbol	Price	Mkt Cap	30-Day Chg
1 Bacterin Intl Holdings	BONE	\$3.20	\$117	-16.9%
2 Wright Medical	WMGI	\$15.66	\$595	-10.1%
3 Stryker	SYK	\$58.51	\$22,820	-5.4%
4 Exactech	EXAC	\$17.46	\$228	-4.4%
5 Kensey Nash	KNSY	\$24.74	\$211	-3.1%
6 CryoLife	CRY	\$5.65	\$157	-1.7%
7 TiGenix	TIG.BR	\$1.86	\$58	0.3%
8 RTI Biologics Inc	RTIX	\$2.78	\$152	0.7%
9 Zimmer Holdings	ZMH	\$62.00	\$11,910	1.0%
10 ArthroCare	ARTC	\$34.33	\$935	1.7%

Lowest Price / Earnings Ratio (TTM)

Company	Symbol	Price	Mkt Cap	P/E
1 Kensey Nash	KNSY	\$24.74	\$211	11.48
2 Medtronic	MDT	\$41.05	\$43,900	12.08
3 Johnson & Johnson	JNJ	\$60.56	\$165,640	12.87
4 Wright Medical	WMGI	\$15.66	\$595	12.95
5 <i>Average</i>			\$12,279	13.44

Highest Price / Earnings Ratio (TTM)

Company	Symbol	Price	Mkt Cap	P/E
1 Smith & Nephew	SNN	\$56.94	\$10,160	77.40
2 RTI Biologics Inc	RTIX	\$2.78	\$152	31.82
3 ArthroCare	ARTC	\$34.33	\$935	25.72
4 Symmetry Medical	SMA	\$10.18	\$370	23.96
5 Synthes	SYST.VX	\$166.02	\$19,706	21.71

Lowest P/E to Growth Ratio (Earnings Estimates)

Company	Symbol	Price	Mkt Cap	PEG
1 Orthofix	OFIX	\$33.29	\$600	0.68
2 Integra LifeSciences	IART	\$48.48	\$1,390	0.68
3 Exactech	EXAC	\$17.46	\$228	1.10
4 NuVasive	NUVA	\$27.25	\$1,080	1.18
5 Zimmer Holdings	ZMH	\$62.00	\$11,910	1.27

Highest P/E to Growth Ratio (Earnings Estimates)

Company	Symbol	Price	Mkt Cap	PEG
1 Kensey Nash	KNSY	\$24.74	\$211	7.31
2 CryoLife	CRY	\$5.65	\$157	2.96
3 Johnson & Johnson	JNJ	\$60.56	165,640	2.23
4 ConMed	CNMD	\$27.33	\$773	2.07
5 ArthroCare	ARTC	\$34.33	\$935	1.94

Lowest Price to Sales Ratio (TTM)

Company	Symbol	Price	Mkt Cap	PSR
1 RTI Biologics Inc	RTIX	\$2.78	\$152	0.91
2 Symmetry Medical	SMA	\$10.18	\$370	1.03
3 Orthofix	OFIX	\$33.29	\$600	1.06
4 ConMed	CNMD	\$27.33	\$773	1.07
5 Wright Medical	WMGI	\$15.66	\$595	1.15

Highest Price to Sales Ratio (TTM)

Company	Symbol	Price	Mkt Cap	PSR
1 Mako Surgical	MAKO	\$26.27	\$1,070	23.70
2 TiGenix	TIG.BR	\$1.86	\$58	18.04
3 Bacterin Intl Holdings	BONE	\$3.20	\$117	7.13
4 Synthes	SYST.VX	\$166.02	\$19,706	5.34
5 TranS1	TSON	\$5.16	\$108	3.81

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Happy May Day, Physicians Unite

By Walter Eisner



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As workers of the world unite on May Day, many American physicians are beginning to wonder if they have more in common with traditional trade union workers such as plumbers and bus drivers than they do with employers.

If physicians don't quickly engage in efforts to ease federal antitrust rules against negotiating pricing with insurers, they will become, "medical share-

croppers on the ACO (Accountable Care Organization) medical plantation."

That's the opinion of David Feinwachs, JD, Ph.D., until recently the General Counsel and a veteran of 30 years of service for the Minnesota Hospital Association.

As the hospital association's top lawyer, Feinwachs had a front line post in managing the hospital/physician

If physicians don't quickly engage in efforts to ease federal antitrust rules against negotiating pricing with insurers, they will become, "medical sharecroppers on the ACO (Accountable Care Organization) medical plantation."

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David Feinwachs, JD, Ph.D./Feinwachs

relationship. He was fired from his job at the end of 2010 for saying the way insurers spend Medicaid dollars was a “black box.” He’s suing the insurers’ trade group, the Minnesota Council on Health Plans for tortious interference and defamation.

Opportunities for Change

Feinwachs and others say the recently proposed ACO rules and the introduction of legislation in Congress (H.R. 1409) to exempt physicians from federal antitrust laws hold the potential to change the relationships physicians have with hospital systems and insurance carriers.

The legislation is co-sponsored by the House Judiciary Committee’s Ranking Member, Democrat John Conyers and Republicans Ron Paul, M.D., and Jeff Miller.

Michael Connair, M.D., Vice President of the Federation of Physicians and Dentists (FPD) a labor union affiliated with AFSCME*, reminded Congress in testimony in December that physicians

in the U.S. have been under a 1996 Department of Justice/Federal Trade Commission (DOJ/FTC) “Statements of Antitrust Enforcement Policy in Health Care.” The policy prevents physicians from negotiating collectively with insurers.

Connair cited over 30 cases since 1996, where physicians around the country were sued by the government for alleged antitrust violations in trying to comply with a cumbersome third-party messenger model and other statements outlined by DOJ.

The prosecution of physicians, testified Connair, has made insurers, “downright arrogant in their treatment of physicians and patients...and has had a chilling effect on physicians’ willingness to resist substandard provider agreements either for their own financial survival or to protect the quality of patient care and the access to care.”

This is one of the main reasons Connair believes physicians need a trade union.

Combating the Monopsony

Connair, speaking for labor, and his colleague Pete Mandell, M.D., Chair of the Council on Advocacy for the American Academy of Orthopaedic Surgeons (AAOS), told Congress that the guidelines and the way the Justice Department has enforced the policy have distorted the economics of the healthcare market. They said insurance markets have become highly concentrated; and for the most part insurers possess market shares that are associated with monopsony power. A monopsony system is where one or very few buyers dominate.

Those guidelines, according to Melissa Maxman, JD, co-chair of the Antitrust



Pete Mandell, M.D./Mandell



Michael Connair, M.D./Connair

Practice Group at the law firm of Cozen O’Connor in Washington, D.C., were enacted to protect end user patients, not physicians. “The antitrust laws generally try to keep costs down for end users—in this case, patients—and to encourage providers of services in the stream of commerce to employ cost savings measures without detracting from high quality of service. The theory is that if you can get the same good results while keeping prices down to consumers, you are benefitting the industry as a

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“The argument [made by hospitals and insurers] is that the healthcare system needs this to have efficiencies. The doctors are now viewed as glorified technicians and they will work for people who are trained in business.”

whole and protecting competition rather than protecting any one particular competitor or group of competitors.”

However, as industries evolve, Maxman notes unanticipated burdens and consequences arise. “The 1996 Guidelines, by not anticipating that individual doctors and providers might at some point need to work together to negotiate favorable contracts with hospitals, health systems, and insurers, eventually gave rise to the situation about which Drs. Connair and Mandell testified last December.”

Consolidation Trend

Feinwachs told *OTW* that the basic trend has been the consolidation of medical practice.

“The practice of medicine has gone from an individual entrepreneur-based business—an art of medical practice—to a corporate practice of medicine. We’ve seen that evolution over the last 50 years. The concept of a doctor practicing by himself or herself or with a group of partners is basically dying. Physicians are being employed by corporations such as hospitals and health-care systems.”

The reason for that consolidation, said Feinwachs, is the need to achieve the proper economic size to try to contain costs.

“The argument [made by hospitals and insurers] is that the healthcare

system needs this to have efficiencies. The doctors are now viewed as glorified technicians and they will work for people who are trained in business.”

“We have seen the development of managed care, which is basically leveraged contracting. It is making purchasers large enough to force economic concessions to the point where they no longer make economic sense. You can just get them because you’re a behemoth.”

“There are now very few buyers,” agreed Feinwachs, “There’s the government and then there are three or four HMOs nationally.”

Accountable Care Organizations

Now, says Feinwachs, ACOs, which are simply HMOs on steroids, are being proposed.

Part of what fuels consolidation, according to Feinwachs, is that government has imposed requirements which basically make it impossible to remain free standing.

He cites the electronic health records requirement as an example. “The concept is sound and will improve lots of things, but groups of physicians, large and small, don’t have the money to access this technology. This is a thing that requires a significant investment. So if the government requires you to have it and you can’t afford it, you have no choice but to be consolidated and bought up.”

“You are looking at a future where once they own you, it’s like anything else. They will dictate the terms because if you can’t practice independently and you can only practice in one of these settings and you choose to leave, you better look for another occupation.”

Petition Government

Feinwachs offers some advice.

If physicians are currently employed by an entity, they can unionize now. “But most physicians won’t be employed directly,” added Feinwachs, “they are going to have a contractual and business relationship with ACOs where their biggest fear in life is to be excluded from the network, which is the same as an economic death sentence.”

He urges physicians to petition the government under the ACO proposed regulations to permit something like unionization given the nature of these organizations.

Feinwachs says the other strategy is to seek an anti-trust exemption, given that the ACO rules contemplate various kinds of exemptions. The only way the ACOs can work is with exemptions from anti-kickback laws, fraud and abuse laws, civil monetary penalty laws and anti-trust laws.

Physicians need to do this or they are, “just grist for the mill...they haven’t got a chance.”

“You have to ask yourself, how friendly is a healthcare system sound to you that’s based on waivers of four criminal statutes currently designed to protect consumers,” added Feinwachs.

Physicians have until May 11 to make public comments on the proposed ACO rules.

Smaller is Better

Maxman told us she understands the fear that ACOs will become huge behemoths that will wield unbridled market power through sheer scope and size. However she continues, “Any fair reading of the proposed joint DOJ/FTC ACO regulations issued March 31, makes clear that, as to the antitrust analysis, the government agencies were attempting to induce precisely the opposite result.”

By carving out “Safety Zones” only for smaller ACOs—which are measured



Melissa Maxman, JD/Cozen O'Connor

by market share, by avoiding oversaturation or exclusivity in any particular practice area, and by rewarding savings shared among doctors through sharing tests and other information across practice areas—the government, says Maxman, is encouraging ACOs to remain as small as possible.

“By exempting only the smaller ACOs from antitrust scrutiny, the Govern-

ment clearly intends to address the ‘behemoth ACOs’ specter by actively encouraging many smaller ACOs to compete vigorously in the new health-care market.”

Avoiding antitrust scrutiny requires an ACO to remain small enough to remain in the safety zone. “If they choose not to do so, the theory goes, it’s a business decision, with predictable consequences,” added Maxman.

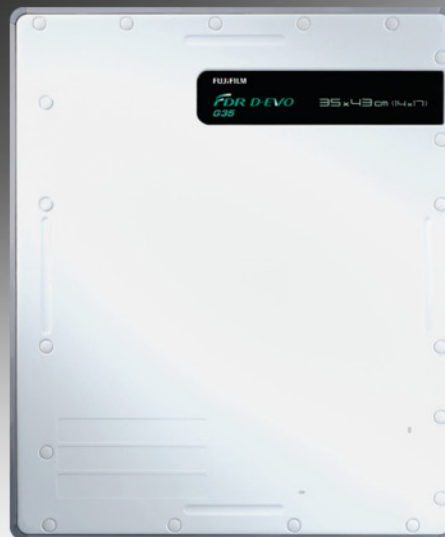
Maxman and Feinwachs both say the best way to have an impact on the rules for ACOs is for physicians and their societies to make their views known to the government by May 11. AAOS’ Mandell told us that the Academy will be issuing comments.

Unions, Physicians and Collective Bargaining

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As business people signing paychecks, physicians have not had a reason or opportunity to join unions. AAOS is not ready to jump on that bandwagon. Mandell said the Academy believes the antitrust laws should be changed to allow physicians to collectively negotiate with health plans and insurers without the necessity of joining a labor union.

However as physicians increasingly collect a paycheck, that may change. We found two physician unions, both affiliated with AFSCME. We will report on those organizations in the future.

As we approach May Day, physicians have before them opportunities to

change the relationships that govern their practice of medicine with patients, payers and regulators.

First, make sure your medical societies are petitioning the government on the ACO proposed antitrust exemption rules. Second, get involved in making sure that your Congressmen and Senators supports H.R. 1409, and third, consider joining a union.

Happy May Day. Physicians Unite. ♦

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Stem Cell Saturday

By Robin Young



Fiesta Americana Grand Los Cabos Stem Cell Saturday Meeting Rooms

Saturday, June 25, is dedicated to a deep (and practical) dive into the ever expanding world of stem cell therapies for spinal care. Appropriately, the dive will occur at the balmy seaside Fiesta Americana Grand Resort in Los Cabos, Mexico.

The session is part of the larger Innovative Techniques in Spine Surgery Symposium which is scheduled for June 23-25, 2011. Organizers Frank Phillips, M.D. (Professor, Director, Section of Minimally Invasive Spine Surgery, Rush University Medical Center), Todd Albert, M.D. (Chair, Department of Orthopaedic Surgery Jefferson University Hospitals), and Alex Vacarro, M.D. (Professor and Attending Surgeon of Orthopaedics and Neurosurgery Jefferson University Hospitals) have added

the Stem Cell Saturday session as well as an extended discussion of spine care in this era of healthcare reform titled “Spine in a Post Reform World” (see text box).

This is the 8th annual Innovative Techniques in Spine Surgery Symposium, the 7th in Los Cabos.

While the full program is available at <http://www.stegroup.org/event.html>, we wanted to highlight two sessions in particular, the Stem Cell Saturday session and Walter Eisner’s Thursday session on the changes that have swept through the spinal surgery community over the past two years. While we conveniently tag this period as “Post-Reform”, it is actually more comprehensive than that.

The economics of the practice of spine surgery are changing rapidly and in ways that clearly will benefit some and disadvantage others. While Eisner, who has written extensively on these topics for *Orthopedics This Week*, will moderate and open up his reporter’s notebook to talk about this past Year of Reform, Ed Dougherty, Joanne Wuensch and James Robinson, Ph.D., will give their highly informed perspectives from Washington to Wall Street.

There is no doubt in my mind that the session on healthcare reform and the changing economics of spine care will be extraordinary with enthusiastic audience participation.

SPINE IN A POST REFORM WORLD

June 23rd

Year of Reform: First Draft of History

Walter Eisner

New Role of Surgeon Champion

Edward Dougherty

Investors and Surgeons: A New World

Joanne Wuensch

Economics of Payment

James Robinson

Questions/Discussion



Golf Course at Fiesta Americana Grand Los Cabos/Fiesta Americana

New Technology and Technique Review

The Los Cabos meeting has always presented excellent reviews of new and upcoming surgical techniques and technologies and this year is no exception. Specifically, speakers will be presenting studies and clinical experiences with:

- Oxygenated Scaffolds for Fusion
- NanOss Bioactive Scaffolds
- MIS Posterior Lumbar Decompression
- MIS TLIF for Spondylolisthesis
- MIS for Spinal Deformity
- MIS Posterior Cervical Surgery
- MIS for Trauma
- MIS ACDF for Multi-level Stenosis/HNP
- Lateral TDR
- Motion Preserving Implants including: Prestige, ProDisc, PCM, Cervicore, Discover and M-6
- New Concepts in Post-Operative Pain Management
- Hydrogel Applications in MIS
- Stand-Alone Interbody for Anterior Cervical Discectomy and Fusion – no Plates!
- And much more

Stem Cell Saturday

Sigurd Berven, M.D. (Associate Professor University of California, San Francisco) and Carl Laurysen, M.D. (Co-Director of Spine Research and Development at Olympia Medical Center and the first neurosurgeon to inject stem cells into a human spinal cord as part of an FDA trial) are largely responsible for organizing Stem Cell Saturday.

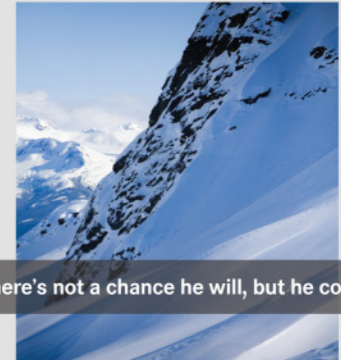
Leading off is an excellent overview that Ira Fedder, M.D. (orthopedic surgeon with Towson Orthopaedic Associates) has prepared regarding all manner of stem cell products, many of which are in the market currently or are in clinical study.

One of the key topics at the session will be to categorize and explore a clinical



Pool at Fiesta Americana Grand. Source: Fiesta Americana

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model for using trophic implants (like stem cells) as well as diving (there's that metaphor again) into the various regulatory considerations.

There is even a section reviewing the latest in using stem cells for disc rehydration and spinal cord trauma cases!

Below is the agenda for the Stem Cell Saturday session.

SATURDAY, JUNE 25 — 8:00-11:15 A.M.

SPINAL REGENERATIVE TECHNOLOGIES: THE ROLE OF CELLS AND TROPHIC IMPLANTS IN SPINAL DISORDERS

MODERATORS: SIG BERVEN, M.D. AND CARL LAURYSSSEN, M.D.

INTRODUCTION

Role of Stem Cells in Spine: Defining a Trophic Implant and Potential Applications — **Ira Fedder, M.D. (15 min)**

Categorizing Trophic Implants and Regulatory Considerations — **Sig Berven (15 min)**

STEM CELLS IN SPINE FUSION APPLICATIONS

Osteoconductive Matrices and Marrow

Collagen/Hydroxyapatite — **Scott Kitchel, M.D. (6 min.)**

Tricalcium Phosphate — **Maarten Persenaire, M.D. (6 min)**

Structural Demineralized Cancellous Bone — **Gerald Girasole, M.D. (6 min)**

Questions/Discussion (10 min)

DBM WITH VIABLE CELLS

DBM with Stem Cell Bone Growth Substitute — **Eubulus Kerr, III, M.D. (6 min.)**

Cancellous Bone Containing Viable Adult Stem Cells — **Ray Linovitz, M.D. (6 min)**

Human Tissue/Cell Based Allograft — **Frank Phillips, M.D. (6 min)**

Questions/Discussion (10 min)

COMMERCIALLY AVAILABLE ALLOGENEIC CELL SOURCES

Amniotic Fluid-derived Cells — **Sig Berven, M.D. (6 min)**

Amniotic Tissue-derived Cells — **Peter McFetridge, Ph.D. (6 min)**

Synovial Fluid-derived Cells — **Carl Lauryssen, M.D. (6 min)**

Questions/Discussion (10 min)

STEM CELLS IN INTERVETEBRAL DISC REGENERATION

Overview: Disc Rehydration — Robin Young (10 Min)

Juvenile Chondrocytes and Disc Regeneration — H. Davis Adkisson, M.D. (10 min)

Questions/Discussion (10 min)

STEM CELLS AND SPINAL CORD INJURY

Cellular Basis of Spinal Cord Regeneration — Carl Lauryssen, M.D. (10 min)

Questions/Discussion (5 min)

FUTURE DIRECTIONS IN STEM CELLS AND TROPHIC IMPLANTS

• **Clinical Considerations — Sig Berven, M.D. (10 min)**

• **Market Considerations — Robin Young (10 min)**

Questions/Discussion (10 min)

Trauma Care in the Developing World Part II

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

Want a challenge? Try improving the trauma care of *everyone* in the world. That is what a brave few have undertaken, in partnership with global entities such as the World Health Organization (WHO). With an upsurge in vehicular accidents and a hodge podge of trauma care resources, lesser developed countries still have a long way to go.

But they do have champions...seasoned champions.

Dr. Charles Mock, a general surgeon who has worked extensively with the WHO to advance trauma care in developing nations, states, "The common thinking is that injuries largely occur in wealthy countries. The truth, however, is that injury mortality rates are significantly higher in most low- and middle-income countries. And with most of the world residing in low and middle income countries, that is a huge burden of disease for people with so little."

"The good news," says Dr. Mock, a professor of surgery at the University of Washington in Seattle, "is that trauma care doesn't have to be prohibitively expensive for these countries. One study from Ghana showed that of the number of Ghanaians who had an injury-related disability, nearly 80% involved the extremities. As such, we should be able to treat these injuries



Sfc. Larry Johns (U.S. Army)/Wikimedia Commons

with low cost methods...in stark contrast to the head and spine injuries that occur in the more developed world."

The other good news is that there are ways to work with what you have.

When someone is injured in Manhattan or Paris, pedestrians hear ambulance sirens...in rural Africa or India it is more often the sound of a taxi driver yelling, "Get out of the way." Dr. Mock explains: "An essential part of improving trauma care involves some form of effective Emergency Medical Services. In many parts of the world, however, injured persons are usually taken to the hospital by some type of commercial

vehicle, such as a taxi or bus. Such is the case in Ghana, where my colleagues and I undertook a study in which we trained over 300 commercial drivers in basic first aid. Then we assessed the efficacy of the course by comparing the process of prehospital trauma care provided before versus after the course."

"Of the 71 drivers who were interviewed nearly a year later, 61% indicated that they had provided first aid since taking the course. Breaking down the components of first aid, we found substantial improvement in several areas: crash scene management (7% before vs. 35% after), airway management (2% vs. 35%), external bleeding control (4% vs.

“ The common thinking is that injuries largely occur in wealthy countries. The truth, however, is that injury mortality rates are significantly higher in most low- and middle-income countries. ”

42%), and splinting of injured extremities (1% vs. 16%). One of our 'take away' lessons was, 'Work with what you have and improve on it.'

When asked about how to approach this monolithic goal of improving trauma care worldwide, Dr. Mock responds with a question: "First of all, do you have a decent budget to work with? If that is the case, then the most effective way to improve trauma care in any one country is to implement The Guidelines for Essential Trauma Care (EsTC), a framework established by the WHO and IATSIC (International Association for Trauma Surgery and Intensive Care) that delineates the fundamental elements of trauma care that anyone in any locale on earth should be able to receive. We have shown in the literature that these guidelines are resulting in improved trauma care—and that they do not have to be prohibitively expensive."

When trying to convince those who need convincing, be it "in-country" or at broader level, what does Dr. Mock do? "I show the data from Vietnam."

Dr. Mock elaborates, "Perhaps the most concrete example we have of how improvements can be made in a low-cost, uniform manner comes from Vietnam, where we field tested The Guidelines for Essential Trauma Care with measurable, positive results. We conducted a baseline survey in 2002 that assessed trauma training for physicians and nurses, as well as planning capabilities—rural clinics, small hospitals, and large hospitals were all included.

“ We need to convince power brokers that inadequate treatment of musculoskeletal injuries leads to disability, catastrophic health expenses for families, and loss of economic productivity for the individuals and the society as a whole. ”

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The survey was repeated a year later in order to assess the effectiveness of the training undertaken."

"Compliance with the EsTC guidelines was noted as either: absent, inadequate, partly adequate, or adequate. The rural clinics showed some improvement in basic airway management and oxygen provision (went from absent to inadequate), but showed no improvement (i.e., remained absent) in areas such as advanced airway management or blood transfusion capability. Things were somewhat better in the small hospitals, with basic and advanced airway management, as well as use of oxygen and

chest tubes, going from inadequate to partly adequate. Another small hospital improvement was the increase from partly adequate to adequate as regards use of IV fluids. Concerning large hospitals, we found that the training increased the knowledge of advanced airway management and use of chest tubes from partly adequate to adequate. There was also a shift from inadequate to partly adequate when it came to use of a cervical collar."

"So much of the trauma around the world is preventable by using a few simple measures. Ensuring that these capabilities are available uniformly



U.S. Navy photo by Photographer's Mate 2nd Class Eric S. Powell/Wikimedia Commons

around the world is part of our responsibility as physicians.”

Dr. David A. Spiegel, assistant professor of orthopaedic surgery at the Children's Hospital of Philadelphia, co-chaired the 2007 Association of Bone and Joint Surgeons/Carl T. Brighton Workshop. “This event was dedicated to musculoskeletal trauma in low- and middle-income countries, and brought together orthopedic surgeons and educators. The participants, who were primarily from developing countries, did not focus on the specifics of how to treat injuries, but instead dealt with the macro level issues, including the barriers to musculoskeletal trauma care in the lesser developed world.”

And given that the average surgeon in Kathmandu or Malawi doesn't have the luxury of advanced training, human resource issues are a substantial part of the picture. “At the workshop we discussed how different countries

design curricula for training not only orthopedic surgeons but also paraprofessionals and/or others who provide musculoskeletal trauma care, especially at the more rural and underserved areas. Some lower income countries in sub-Saharan Africa have no training in orthopedic surgery; in some countries, however, there are programs whereby a surgeon can briefly travel to a neighboring country to train.”

Looking Eastward, things are somewhat brighter. Dr. Spiegel states, “Nepal began orthopedic residency training in 1997 and is making great progress. Their programs tend to follow the Indian model, which involves an internship and then three years of orthopedic surgical training. While it is a shorter program than those available in the U.S. or Europe, the value of training in one's own country is that you train for those injuries that are seen locally—and you learn to work with the resources that are locally available. Unfortunately, we are still left with the reality that approximately 50% of the medical graduates of a country like Nepal will leave for better-resourced areas.”

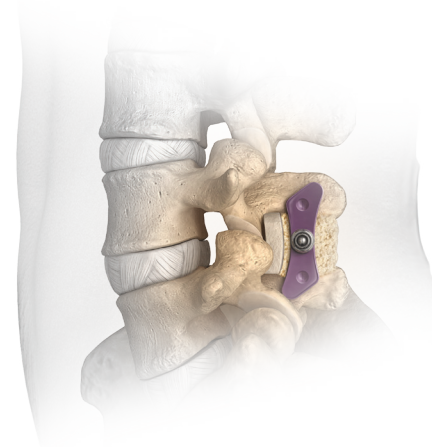
Thus, while the new expertly trained orthopedist on staff is ready to go, he or she can't provide proper trauma care without at least a modicum of appropriate resources. “Having trained caregivers is only one piece of the puzzle,” says Dr. Spiegel. “In 2007 the steering committee for WHO's Global Initiative for Emergency and Essential Surgical Care designed a basic surgical questionnaire to assess infrastructure, supplies, and resources in the developing world. To date the findings in numerous countries have highlighted gross deficiencies in, for example, the regular availability of electricity and running water. A specific, depressing result was that only one

in three hospitals had the capability to wash out an open fracture properly. Clearly, we—and I mean everyone at every level of healthcare—are not getting things right.”

Included in that “we” are the government officials and health planners, whose first agenda item for the day may not be to visit a rural health center. Local healthcare advocates, as well as Dr. Spiegel and his colleagues, are attempting to change that. “We have to convince government officials, those in the ministries of health and other stakeholders, that they can and should make a real difference in their people's lives by implementing legislation aimed at preventing and treating injuries, and strengthening the availability and quality of emergency services available especially in the more remote areas of each country. The role of local healthcare advocates cannot be overstated, as they have the best chance of promoting their

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cause on an ongoing basis. The key is to frame the issue in a way that gets the attention of those in charge. We need to convince power brokers that inadequate treatment of musculoskeletal injuries leads to disability, catastrophic health expenses for families, and loss of economic productivity for the individuals and the society as a whole.”

Dr. Spiegel, author of *Bibliography of Orthopaedic Conditions in Developing Countries*, reflects on what he would do if given a substantial grant. “I would take one district from a low income country and conduct community-based and facility-based surveys looking at the burden of orthopedic trauma in that district. I would also do a situational analysis of health facilities in that district, assessing the capacity and availability of services with regard to orthopedic emergencies. Are there nurses, general doctors, or general surgeons, etc? Then, I would proceed with developing a plan to make recommendations for the most appropriate way to upgrade the delivery of musculoskeletal care in that district.”

Then the white coats and others could complete their outfits by donning their advocacy hats. ♦

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company

Marrowmax Claims Easier Aspiration

Medtronic Biologics has introduced a new bone marrow aspiration kit which the company says can eliminate the need for a painful second surgery to harvest bone.



Marrowmax Bone Marrow Aspiration Needle Kit/
Medtronic

The company announced the launch of the Marrowmax Bone Marrow Aspiration Needle Kit on April 19.

During aspiration, marrow and/or autologous blood from a marrow-rich site is collected by a surgeon. The procedure involves inserting a hollow needle through a skin incision into the bone marrow cavity. A syringe is then used to draw a sample of the liquid portion of the marrow into the hollow needle.

According to a company statement, most aspiration needles contain a single hole at the end of the cannula, which is a hollow tube that allows marrow to travel into a syringe, where marrow is drawn from one position. The multi-holed cannula feature of the Medtronic kit allows for simultaneous marrow draws at the same position thereby reducing aspiration time and the need for sometimes painful repositioning of

the needle. The Marromax comes in three sizes to accommodate surgeons for a variety of draw sites in the body.

“The launch comes at a strategic time for us,” said Neil Beals, Vice President of Marketing for Medtronic Biologics. “We expect this innovation to enhance and complement our Biologics and bone grafting portfolio and allow our sales team to carry a complete set of tools to fit both surgeon and patient needs.”

It is estimated that more than 350,000 bone grafting procedures are performed in the U.S. each year.

—*WE (April 20, 2011) ♦*

DePuy 1Q11: Stable, Bottomed Out

The DePuy franchise of Johnson & Johnson (JNJ) reported a 3.4% increase in reported sales for the first quarter of 2011 on April 19. Total



DePuy/Wikimedia Commons

DePuy sales reached \$1.503 billion for the quarter.

Overall, JNJ quarterly sales rose 3.5% to \$16.2 billion. The company’s Medical Devices and Diagnostic division reported sales of \$6,432, rising 3.3% over the previous year’s quarter.

Hip and knee sales didn’t fare particularly well, declining 4% and 2% respectively on a constant currency basis. Spine sales rose 1% on the same constant currency basis.

Mizuho Securities’ analyst Mike Matson, reported that company management was “cautiously optimistic and noted that while volumes remain below pre-recession levels there are signs of stabilization and that while pricing remains under pressure it does not appear to be worsening.”

DePuy’s overall results improved from the last quarter of 2010 and all the DePuy businesses grew sequentially.

The company did not address the elephant in the room - the reported merger discussions with Synthes.

As we reported earlier in the week, if Synthes and DePuy were to combine, the resulting firm would be the world’s largest orthopedic company with annual sales of around \$9.3 billion. DePuy and Synthes are numbers 2 and 3 in spine.

DePuy 1Q11	Sales (\$ in millions)	% Change
Total Reported Sales	\$1,503	3.4%
Hips (cc*)	\$327	down 2%
Knees (cc*)	\$359	down 4%
Spine (cc*)	\$273	1.0%
*cc = constant currency		

Source: Johnson & Johnson

Their potential merger would give them roughly 22% of the spine market and begin to challenge Medtronic's 45%+ market share.

—WE (April 20, 2011) ♦

Stryker's 12% First Quarter

If it wasn't clear that Stryker Corp. is no longer just an orthopedic or hospital bed company, it was made crystal clear on April 19 as company CPCEO (Chairman, President and Chief Executive Officer); Stephen MacMillan reported a 12% increase of revenue for the first quarter of the year. Total sales reached \$2.02 billion.

"Balanced" and "Leveraged" are the terms MacMillan used to describe how

Stryker was able to show such a rise in revenues while orthopedic competitors are struggling to increase sales in the lower single digits.

Stryker in Post-Ortho World

This was the first quarter that Stryker reported sales after buying Ray Elliott's (Boston Scientific's) neurovascular business. With that acquisition, Stryker also changed its reporting categories. In addition to Reconstructive and Medical Surgical, the company now is reporting Neurotechnology and Spine revenues.

Reported Reconstructive sales only rose 1.9% as Hips sales increased 4.7%, Knees fell 0.6%, Trauma and Extremities were up 3.7% and Spine rose 2.7%. Medical Surgical revenue was up 13.1% to \$764 million and the new Neurotechnology and Spine division rose 48.3% with \$340 in revenue.

Hip and Knee Market

BMO Capital Market analyst, Joanne Wuensch, wrote that Stryker's commentary on the health of the orthopedic market was mixed versus that from Johnson & Johnson (JNJ) management earlier in the day. "JNJ pointed to a hip and knee market that improved sequen-

tially, versus Stryker management that talked about a market that changed in 2Q10, and is now essentially stable quarter to quarter."

Continued Wuensch in her investor note: "Yet uncertainty still remains as to if or when volumes will return to pre-recession levels. We've believed for some time now that we have arrived at a 'new normal' in the orthopedic industry, and with Biomet, Johnson & Johnson and Stryker reporting, our hip market estimate for 1Q11 reflects 1.4% reported growth." Note Stryker reported 4.7% growth in hips.

However, in knees, Wuensch says if her Zimmer numbers hold, the knee market will, "decline by 0.7%, below even the paltry 1.4% growth rate we had previously dialed in, setting a new bottom for a fourth consecutive quarter, and would seem to verify management commentary about knee procedures still being deferred, particularly among younger patients."

Balance, Leverage and Innovation

MacMillan told analysts, "Our first quarter results reinforce the strength provided by our balanced portfolio of products and services across many key segments of medical technology. Additionally, we continue to leverage our strong balance sheet and cash flow to maximize shareholder returns through targeted acquisitions, buybacks and dividends. And as evidenced by the significant increase in R&D, our commitment to innovation remains intact while simultaneously investing in our comprehensive quality and compliance programs."

Regarding innovation, the CPCEO did comment on the slow pace of the FDA's



Stryker 1Q11	Sales (\$ in millions)	% Change
Total Reported Sales	\$2,020.0	12.0%
Reconstructive		1.9%
Hips	\$302.0	4.7%
Knees	\$335.3	down 0.6%
Trauma/Extremities	\$226.6	3.7%
Med Surg	\$764.0	13.1%
Neurotech/Spine	\$340.0	28.3%
Spine	\$161.6	2.7%

Source: Stryker

review of the company's OtisMed knee product. MacMillan said, "With things as they are at FDA," he was leery to predict any approval schedule. MacMillan also said there was still room for innovation in every Stryker product category.

—WE (April 20, 2011) ♦

\$35 Million for Benvenue KAST Trial

Benvenue Medical, Inc. has raised \$35.5 million in Series C funding to pay an ongoing clinical trial of the company's Kiva Vertebral Compression Fracture System.

The first patient was enrolled last August at the Medical College of Wisconsin in a randomized, Level-I clinical study called KAST. The study compares the Kiva to kyphoplasty. One of the Co-Principal Investigators and Chairman of the University of California Medical Center, Steve Garfin, M.D., said, "The

Kiva Implant is a new, innovative device to help treat painful osteoporotic fractures." The trial is conducted in support of the company's 510(k) clearance efforts with the FDA.

The Kiva system is marketed by Benvenue in Europe to treat vertebral compression fractures (VCF) and degenerative disc disease,

The venture capital-backed company was founded in 2004 to develop minimally invasive surgical and interventional products. The company was initially funded by Versant Ventures, DeNovo Ventures, Domain Associates and Technology Partners. Its first products are designed for the treatment of VCFs and degenerative disc disease, which have combined \$1.6 billion revenues globally.

This new round of funding was co-led by new investors Domain Associates and Technology Partners, with continued support from Versant and DeNo-



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vo. Nimesh Shah, principal at Domain Associates, and Roger Quy, general partner of Technology Partners, will join the Benvenue Medical Board of Directors.

A company statement said, in addition to using the new funds to complete enrollment and patient follow-up in the KAST trial, the company will also begin multiple spine product commercialization initiatives in the U.S. and Europe. The Kiva VCF Treatment System has now been used to treat over 450 vertebral compression fractures globally.

"With the landmark KAST clinical trial enrolling well, along with the go-to-market efforts already underway for Blazer and additional products, Benvenue Medical is well positioned to be a significant player in the global spine market. We're very enthusiastic about being involved," said Shah.

—WE (April 19, 2011) ♦



Kiva VCF Treatment System/Benvenue Medical, Inc.

STAR: 161 Million and Climbing

Small? Now don't be shy...Small Bone Innovations, Inc. (SBI) has announced that LifeWise health plans in Washington State, Oregon and Alaska—covering 1.6 million people—have revised their coverage policies to cover the company's STAR total ankle. The STAR ankle is the only total ankle replacement system (TAR) cleared through the FDA's pre-market approval (PMA) process.

For SBI, this policy change means that STAR ankle coverage is now available to more than 92% (161 million) of privately insured health plan members in the U.S. This includes major private insurers such as all BlueCross and BlueShield Association member companies, Aetna, Cigna, Coventry and others.

Almost all of the 100 million eligible individuals covered by governmental insurance programs such as Medicare, Medicaid and TRICARE also have access to the STAR ankle, as well as most individuals covered by state workers' compensation programs.







Small Bone Innovations

The STAR ankle's safety and effectiveness was compared with ankle fusion in a multi-center, multi-year, Investigational Device Exemption (IDE) study. The study results, published in 2009, supported the only PMA order to be issued by the FDA for a total ankle joint replacement by demonstrating the STAR to be superior in efficacy and comparable in safety to fusion.

Dr. Jeffrey Christensen*, a Seattle-based podiatric foot & ankle surgeon said in the news release: "The latest generation of TAR systems are providing a high level of functionality as well as eliminating or minimizing pain—leading to longer term benefits that patients, as well as insurers, can recognize. Should these early surgical benefits last up to ten years or more, which STAR has demonstrated, we could see total ankle technology replacing fusion as the gold standard for treating mid-to-late stage ankle arthritis."

*Dr. Christensen is a paid consultant to SBI providing education services.

—EH (April 19, 2011) ♦

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Synthes and DePuy in Talks to Merge

On Friday, April 15, *The Wall Street Journal* reported that Johnson & Johnson (JNJ) was in talks to purchase Swiss-based Synthes for about \$20 billion. If Synthes and JNJ's DePuy were to combine, the resulting firm would be the world's largest orthopedic company with annual orthopedic shipments of around \$9.3 billion. In market share terms, the combined entity would have about 28% market share. The #2 and #3 companies would be Stryker at 14% and Zimmer at 13%.



Logo manipulation by RRY Publications

While the regulators will, no doubt, be scrutinizing this transaction carefully should it move beyond the current talking stage, employees, customers and suppliers may well be wondering how such a combination would affect them. Interestingly enough, there is little overlap between the two companies.

As the following table illustrates, the two businesses fit together pretty well.

	DePuy		Synthes	
	Market Share	Rank	Market Share	Rank
Knee Recon	20.5%	#2	--	--
Hip Recon	22.0	#2	--	--
Trauma	4.7	#4	49.3%	#1
Spinal Implants	11.1	#2	10.9	#3
Extremities	20.3	#1	--	--
Overall	14.7%	#1	13.0%	#3

Source: RRY Publications, Wells Fargo and public sources

With such little overlap, for most employees the combination probably means a greater measure of job security.

Wall Street is initially praising the prospective transaction. Wells Fargo's Larry Biegelsen said in a note to investors this morning: "We believe the deal appears to be quite reasonable priced at 5x TTM (trailing twelve month) sales and 12x TTM EBITDA relative to recent deals in the space, assuming the \$20B equity value per WSJ (*The Wall Street Journal*), and taking into account growth prospects for trauma and spine segments."

The talks between the two firms were characterized by news reports as "fragile." Indeed this is absolutely a journey of a thousand miles for both firms with only a few tentative steps being taken so far. But, on paper, this combination is promising. Is Hans Wyss ready to pass his company along to JNJ? Is JNJ ready to run the gauntlet of regulatory agencies in the EU, U.S. and China to become the dominant orthopedic company in the world?

Surprising even ourselves, we think the answer to both questions could well be "Yes."

—RRY (April 18, 2011) ♦

legal

NJR Now World's Largest Implant Registry

The National Joint Registry of England and Wales (NJR) is now the largest hip, knee and ankle joint database in the world, according to the



njrcentre.org.uk/Wikimedia Commons

Healthcare Quality Improvement Partnership (HQIP), the database manager. The registry was set up in 2002 by the Department of Health and the Welsh Assembly Government to collect information on hip and knee replacement operations and to monitor the performance of the replacement implants. It later extended its scope to include ankle replacements.

The registry's stated purpose is to define, improve and maintain the quality of care of individuals receiving joint replacement surgery across Britain's National Health Service and the independent healthcare sector. It now contains over one million records.

Directors of the registry recently announced that it would be adding shoulder and elbow joints to its records, will increase its international collaboration with other registries, and develop a research and publication strategy that utilizes their biggest-of-its-kind-in-the-world database.

Registry Chair Laura Powers-Freeling said, “Having experienced a successful hip replacement myself, I appreciate the important source of data and insights the NJR provides to medical and surgery professionals, and the contribution good information makes to quality and effectiveness of care for joint replacement recipients.”

To access the database and view its statistical reports go to its website at www.njrcentre.org.uk.

—BY (April 19, 2011) ♦

large joints

STAR Orthopaedics and the iUni

Calling all (some) knee patients... STAR Orthopaedics is announcing that Dr. Raj Sinha is the Principal Investigator in a ten year follow-up trial of the ConforMIS iUni G2 knee resurfacing device, an FDA cleared implant for patients with osteoarthritic damage in a single compartment of the knee.



ConforMIS

The iUni G2 allows for the targeted and minimally invasive treatment of just the diseased area of the knee in properly indicated patients.

The iUni G2 uses CT scans of the patient's knee, and each implant has a shape and size that is based on the patient's own anatomy. As indicated by ConforMIS, the personalized shape and fit allows for greater bone and tissue preservation and the potential for more natural knee motion, in addition to a faster recovery than traditional total knee replacement.

The post-market trial involves patient screening and assessment to determine eligibility, a surgical procedure to implant the device, follow-up visits at the clinic, and long-term monitoring to gather information on the function and durability of pain relief from the iUni G2 implant.

Dr. Sinha told *OTW*, “The first steps are to educate patients about the possibility of customized partial knee replacements and then screen them for appropriate candidacy. We have been using the ConforMIS implants for three years, so my surgical team is very familiar with them. The two biggest challenges will be long term follow up and explaining to some patients why they are not appropriate candidates for the technique, and thus disappointing them.”

Also commenting to *OTW* was Dr. Gregory Martin of Performance Orthopedics of the Palm Beaches and the Orthopedic Research Institute in Boynton Beach, Florida. He stated, “We are excited to participate in the ConforMIS G2 iUni Post-FDA approval clinical trial. We have already moved forward in enrolling patients. The process includes: Finding patients that meet the

inclusion criteria of the study; Educating the patients on the risks, benefits and alternatives of the procedure; Putting the patients through the informed consent process for the study; Then the patient proceeds with their surgery and follows up at appropriate intervals.”

He added, “Initial response has been very positive from the patients. Our team has prepared by streamlining the process for patients in order to provide a seamless experience and minimize inconvenience to the patients. We are actively recruiting new patients for the study both through my clinical practice, as well as IRB approved print and social media. The challenge with any long term arthroplasty study is ensuring patients follow up as they get further out from surgery, because usually when the feel good, they forget or find it inconvenient to follow up. With that said, we are committed to the goals of the study and look forward to seeing it through to completion.”

—EH (April 21, 2011) ♦

iPod Surgical Navigation App?

When 75-year-old Gulab Singhyi, of Mumbai, India, went to her orthopedic surgeon for a knee replacement operation, she had no idea she would be the first patient in Asia to have her surgery guided by an iPod navigation system. Her doctor, Arun Mullajhi, M.D., who performed the surgery at Breach Candy Hospital in said, “Though the computer navigation itself was a breakthrough, the iPod navigation allows for better accuracy.”

Here is how it works. The hardware is made up of a special casing for the iPod



Wikimedia Commons

as well as a computer system that communicates wirelessly with the device. The computing system also contains an infrared sensor. The casing has slots for miniature instruments and three antennae with reflecting spheres. These spheres provide a frame of reference to the camera's infrared sensor, which tracks each of them to plot the x, y and z axis of each point.

The system, developed by Smith & Nephew Inc., works on a technology similar to that used in computer navigation systems. "The iPod is connected to a camera attached to a stand which is kept at a distance. Instead of a screen, which earlier used to be at the same stand, the surgeon can see the image along with other information on the iPod screen," said Tim Frandsen, director of global surgical navigation for Smith & Nephew.

Mullaji explained, "The iPod screen shows accurate measurements, angles, positions and the movement that will be possible for each point touched by the sensor pointer connected to it. And since the iPod is carried by us in hand,

the screen is at the same area where the surgery is being done as against the screen at a distance in a computer navigation system."

In replacement surgery, there is a 3mm margin of error, Mullaji noted. If the error is greater than this, the patient may suffer multiple fractures and dislocations after the surgery. "Though the computer navigation itself was a breakthrough, the iPod navigation allows for better accuracy. Studies suggest that within the next 30 years, there is likely to be a 600% increase in the number of revision surgeries world over. The iPod navigation system helps in giving the alignment of the bone joint with 0.1 mm precision," said Mullaji.

—BY (April 19, 2011) ♦

How to Use Stem Cells to Grow Cartilage

Parts of the human body can heal themselves. New skin cells regener-

ate to replace lost ones. If part of a liver is removed the cells in the remaining part can multiply and regenerate the whole organ. However, some organs will only heal when the injury is severe. This appears to be the case with articular cartilage in knees.

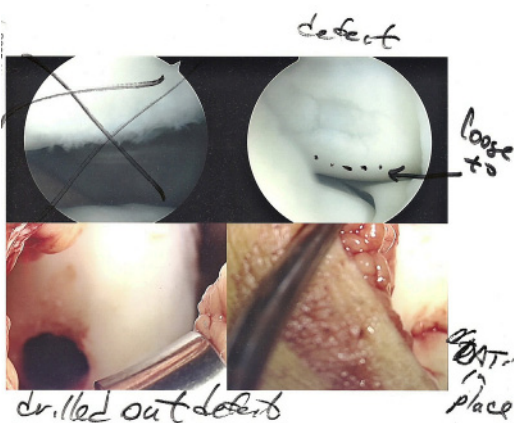
Dr. Saw Khay Yong, an orthopedic surgeon from Kuala Lumpur, notes that, "The progressive thinning of the articular cartilage (in the case of osteoarthritis) initially does not cause pain until the arthritis has progressed to an extent where the underlying bone, with nerve fibers, is exposed."

While the patient senses this as being severe injury to the knee, it appears that the knee does not. The progressive thinning of the cartilage is not sufficient trauma to activate the stem cells in the knee bone marrow to replace the lost cartilage.

Yong adds additional trauma by drilling holes through the remaining cartilage to reach the bone to initiate the healing and cartilage regeneration mechanism with a technique called microfracture. The limitation to this technique is that there is a chance the patient's bone marrow may replace the lost cartilage with a weaker, less flexible type of cartilage called fibrocartilage, said Dr. Jeb Broyles, a U.S. orthopedic specialist from Louisiana. Yong has overcome much of this problem by injecting the patient's own blood stem cells into their knees after drilling holes into the underlying bone.

Broyles was attracted to Malaysia by the results of Yong's Malaysian clinical study.

Before trying the procedure in humans, Yong and researchers regenerated car-



Wikimedia Commons

tilage in the knee joints of goats. After observing and documenting evidence of good cartilage repair in goats, Dr Yong and his team proceeded to perform a pilot study on 10 patients using stem cells harvested from the patients' own blood.

Yong and his team published the results of their study this month in the *Arthroscopy Journal of Arthroscopic and Related Surgery* with the biopsy results of five of the patients who participated in the pilot study. "All of our biopsy specimens showed histologic features of hyaline cartilage," the researchers wrote. A majority of patients showed progressive improvements, even up to three to four years.

—BY (April 19, 2011) ♦

reimbursement

2012 Proposed CMS Payment Updates Released

This year's annual CMS (Centers for Medicare and Medicaid Services) spring update of the proposed Inpatient Prospective Payment System (IPPS) for 2012 was released on April 19.

Spine saw some proposed increases while hips and knees were flat.

Our good friend Stan Mendenhall, Publisher of *Orthopedic Network News*, told us when asked for comment: "Yawn." Mendenhall says he doesn't start paying attention to these proposed updates until August.

Spine

Larry Biegelsen, Wells Fargo's device analyst said that 360 spine fusion MS-DRGs increasing by 3.6% under the proposed rule is good for NuVasive which derives 100% of revenue from spine fusion procedures. Complex fusions also saw a 3.6% increase. Lumbar and cervical fusions are slated to rise by 0.3% and 0.2% respectively.

Artificial disc replacement procedures saw a modest 1.6% proposed increase.

Kyphoplasty/Vertebroplasty

Kyphoplasty/vertebroplasty MS-DRGs increased by 3.9% and is good news

for Medtronic, Smith & Nephew and Stryker, who all sell vertebroplasty kits.

Hips and Knees

Recon (hip/knee replacement) MS-DRGs proposed updates were flat. Not great news for Zimmer, which gets 72% of its revenue from hips and knees.

Hospitals Unhappy

Hospitals were not happy. The American Hospital Association said it was "deeply disappointed" by the proposed rule that would decrease average inpatient payments to acute hospitals by about \$498 million or 0.5%.

CMS will accept public comments on the proposed rule until June 20, 2011, and will respond to them in a final rule to be issued by Aug. 1, 2011, the agency stated. That's when we'll wake up Stan.

For more information about the proposed rule, [click here](#).

—WE (April 22, 2011) ♦



Photo manipulation by RRY Publications. Source: CMS and Wikimedia Commons

trauma

**UT Southwestern:
New Trauma Device**

Good news for pulverized pelvises that roll into the ER...Orthopedic surgeons at the University of Texas (UT) Southwestern Medical Center have developed a new trauma device that offers precise repair of pelvic fractures with minimal postsurgical scarring, pain and infection risk. Drs. Adam Starr and Charles Reinert developed the Starr Frame, its associated accessories and the Reinert fracture reduction, or realignment instruments. The device, which generally results in faster recovery, is now in use at locations in the U.S., Canada and Europe.

The device and instruments attach to the operating table and then to the intact portion of the pelvis using steel pins. The Starr Frame serves as an anchoring point to control and re-align multiple fractures in various planes.

Dr. Starr told OTW, "The thing that drove us to develop the frame was the struggle we had in the operating room trying to re-align displaced pelvic fractures. The traditional management strategy for these injuries employs an open surgical approach. It works—you can get the bones reduced—but the approach carries a high rate of wound complications, especially in obese patients. I was trained here at UT Southwestern by Charlie Reinert. Charlie has always been a proponent of percutaneous management of pelvic fractures, so I grew up in a setting where we tried to get the reductions without making big incisions. You can get them lined up by pushing and pulling, and with small stab incisions to introduce instruments. But it's always tough to do.

Eventually we figured out that we could anchor one side of the pelvis to the table, and then reduce the other side to it. Instead of the chaotic process of pushing one direction, twisting in another—all while someone tries to hit a small target with a guidewire—now we do it in a much more controlled fashion. We set the reduction, check it, and buff it as needed. The device helps get the reduction, and holds it. It's much easier. In a nutshell it was laziness that drove us to come up with this device. We were tired of working so hard. With regard to the 'ups and downs' of the development process, it was very easy for me. UT Southwestern has an office dedicated to developing ideas. It takes a while, but as long as



UT Southwestern Medical Center

you're patient, it's actually a fun process. I learned a lot, and got to work with some great people along the way."

—EH (April 22, 2011) ♦

Special note from OTW:

FACT: Each year approximately 3,000 children die from cancer.

FACT: Pharmaceutical companies fund over 50% of adult cancer research, but virtually nothing for children.

FACT: Approximately 12,500 children are diagnosed with cancer each year.

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Courtesy of RRY Publications LLC

THE PICTURE OF SUCCESS

Dr. Stuart Hirsch

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

If you ever pass by a playground and see Stuart Hirsch playing on the monkey bars...he's earned it. Dr. Hirsch, the recipient of the 2007 American Academy of Orthopaedic Surgeons (AAOS) Tipton Award for Outstanding Leadership, knows what it means for children to have access to safe, fun places to explore...indeed, he was instrumental in creating the annual AAOS playground build event.

Dr. Hirsch, who had also served on the AAOS Board of Councilors and the Board of Directors, says he grew up in a much simpler time when things just "were." "I was raised in New York City by warm parents who made it clear that my siblings and I must get good grades and should always be polite and honest. The expectations were high and the love was deep."

This solid ethical foundation would serve Dr. Hirsch well when he later became the treasurer of AAOS and then chair of the AAOS Communications

Council. Of his early days, the accomplished Dr. Hirsch states, "Not only was I influenced by my brother, who entered medical school when I was in college, but I was profoundly changed by the relationships I had with numerous teachers. I always felt close to my instructors, and in medical school at the end of each rotation we were invited to a professor's home for dinner. I believe in things such as this because it helps break down barriers such that teaching is more Socratic/mentoring in nature."

But you don't need Socrates to mop a floor. Dr. Hirsch smiles and says, "Although my residency at Downstate Medical Center-Kings County Hospital was challenging because we didn't have a lot of ancillary personnel, it taught my fellow trainees and I to work as a team *and* to be independent. As a resident I mopped the OR floor and wheeled stretchers; when the X-ray technician left for the day he left the machine on so we could use it... all of this meant a real appreciation for



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the value of teamwork. Much of what I have done in the communication and leadership realms has focused on teamwork and on the value of having a reliable support system. Fundamentally, it's not about a lone person toiling away...it's about a team of individuals with shared goals working together and empowering one another."

This philosophy ties in nicely with something Dr. Hirsch sees as one of his most important life accomplishments, namely, his work in communications. "When I became the AAOS Communications Chair I moved forward with the thought that the Academy needed to communicate its vision to members,

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patients, the public, and thought leaders. The surveys we were doing at the time found that the public didn’t know what an orthopedic surgeon does. I’m proud to have worked on communications initiatives, which garnered Emmy, Clio, and Mercury awards and brought the Academy into association with other industries that have been supportive of our efforts.”

To some, the word “communication” conveys an air of fluff...something that cannot be measured and thus perhaps is somehow less valuable. Nonsense, says Dr. Hirsch. “Far from being a peripheral part of our work as physicians, communicating a clear message is important, for example, when you have an older patient who relies heavily on his or her family. Or, if you are treating a teen, but you haven’t communicated the importance of the rehabilitation program to the parent, then the child may not follow through in full. For each patient I provide the diagnosis in writing, what tests we are going to perform, and what we are going to do to help them recover and why. That way we are all on the same page.”

Which, says Dr. Hirsch, is a bit more than can be said for some orthopedists and their perceptions. “As part of my work with AAOS we did a survey and asked orthopedists if they were good communicators. A full 80% replied, ‘Yes,’ whereas when asked the same question about their partners, only

22% said, ‘Yes.’ Patients felt differently, responding that we were ‘high tech’ but not ‘high touch.’ All of us—even the star communicators—can be better under certain circumstances and will occasionally miss something because of culture, educational differences, or language issues.”

Taking the time to properly communicate with patients can make the difference between a success and a poor outcome, states Dr. Hirsch. “If I say, ‘You need physical therapy three times a week,’ but the person doesn’t drive then there could be a hitch in the program. It is also helpful to ask patients to repeat what you have told them, and ask them if there is anything that would interfere with them fully participating in their post operative care.”

Dr. Hirsch especially enjoys—and is proud of—his work as a mentor to young orthopedists. “In medicine, unlike in industry, we have traditionally not put the time and effort into developing leaders. But the future of orthopedics is looking very bright these days because more and more specially trained people will be at the helm of important organizations and academic departments.”

The advice he gives to future leaders? “When you hold a

position of leadership you will ideally feel that the role comes with responsibilities, but is not filled with perks or rights. It is not about what you have accrued, but is about what you can do to enhance care, promote lifelong learning, and display best practices. My advice is to be trustworthy, show integrity, and create a meritocracy—then you can translate lofty goals into something of substance.”

A master at making great-sounding things come alive, Dr. Hirsch is energized by the work he has done on the AAOS playground build. “Sandy Gordon and I initiated this project at a time when the concept of handicap accessible playgrounds had not yet taken hold. We could see that building safe play-

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grounds for all children resonated with our message that as orthopedists we don't just fix bones...we prevent them from breaking. Along with many AAOS members and staff, we took the plunge in 2000 and built the first playground during the conference in Orlando. As has become the norm, the community helped design the space, the children selected the equipment, and we met with community representatives to select the site."

Reflecting on the earlier days of playgrounds and their hazards, Dr. Hirsch says, "There used to be no science to the development of playground equipment. For example, there were lots of metal edges that caught jackets; now there are rounded edges. It's an amazing event: in the early morning we start with a flat piece of empty land. At the end of the day 600 volunteers will have come in, given their time and energy, and left with a smile on their faces as they look around upon the fruits of their labor."

Known for becoming involved with unusual, meaningful efforts, Dr. Hirsch also devotes time to helping those who survived the initial attack of a society-wide scourge—polio—only to be left years later with muscle fatigue and other issues. "In 1970 I treated a patient who was having increasing problems because of childhood polio. At the time we did not know that there was a whole range of symptoms that would come to be known as 'Post Polio Syndrome'—things such as increasing fatigue and neurologic deficits. My patient was devastated as she had to rely on crutches, use wheelchairs, and was becoming breathless at times. I worked closely with her and built a Post Polio Syndrome

support group that grew to include 300 patients. It wasn't too difficult to 'connect' with this work as I grew up in a time when parents still had a horrific fear of polio. The treatment was often barbaric, and involved isolating children such that their parents could only see them through a window."

Clearly a success in many realms, Dr. Hirsch credits his careful attention to patients for creating a wonderful career. "It is imperative that we put ourselves into the patients' position, and that we work hard to educate patients so that they can be our partners in their care. Ask them what their goals are...if you think someone has had a successful operation but the person can't do what he wanted to do postoperatively, then that is not a success. And of course, a

happier patient is overall a more satisfied patient. In the days of Facebook and Twitter, negative evaluations go 'viral' in the blink of an eye and your good reputation can be seriously affected."

When Dr. Hirsch and his family head for quiet time, there are no tweets or phones allowed. "We escape to a quiet harbor on the New Jersey shore...a place that is blessedly free of phones and full of sunshine. Our friends join us as we engage in water sports such as fishing and kayaking. I like to sit and look at the water because it reminds me that we are just a little piece of life and that the power of nature is much stronger."

Dr. Stuart Hirsch...leading by example and loving his field. ♦

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