

Innovative Employers Capitalize on Disruptive Orthopedic Strategy

Be a part of the employer led healthcare cost revolution. Employers that do not take control of their healthcare expenses will eventually be extinct. Rates are rising at an unsustainable rate, and Regenexx is the only network providing a solution for employers to change the trajectory of their healthcare costs. Employer partners are using the Regenexx Interventional Orthopedic strategy and reducing the need for surgeries by 70%. Given an equal choice between surgery and Regenexx employees choose Regenexx procedures 99.7% of the time, and this formula has reduced employer orthopedic health care costs by 84% creating a win-win scenario for companies and their employees.

Health care costs continue to rise faster than employers can sustain – and orthopedic costs remain as one of the fastest areas of spend at 20-40% of an employer’s overall costs – employers are finding smart ways to get better value for the health care dollars they’re spending. To that end, more and more employers are re-thinking the orthopedic health care options offered to their employees by adding interventional orthopedic procedures.

Interventional Orthopedics is a new medical specialty that uses precise, image-guided injections of substances that heal tissue. Its goal is to replace the need for invasive surgery; e.g. instead of a radical ACL reconstruction cells are injected that heal a torn ACL.

This paper examines the financial, medical, and employee aspects to be considered when adding Interventional Orthopedic procedures to a health plan. This paper provides a closer look at one major employer whose ambitious approach

to employee well-being nearly flatlined annual health cost increases from 15-18% down to 1-2% and saved over \$700,000 in annual orthopedic spend.

Over 50% of orthopedic surgeries have been shown to be ineffective or unnecessary in clinical trials ¹ and engaged corporate leadership is taking control of this expense across the country by incorporating the patented Regenexx procedures into their health plans.

Employer Savings on 180 Regenexx Procedures

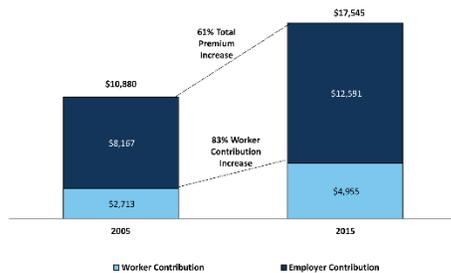
Est. orthopedic surgery and patient cost	\$5,600,166
Regenexx alternative and patient cost	\$910,755
Total cost savings	\$4,689,411
Savings rate	84%

The Employer led Healthcare cost revolution.

Health care costs are rising faster than corporate profitability and employee salaries.

Specifically, premiums for family health coverage have increased by 19% since 2012 – and 58% since 2006 – according to the Kaiser Family Foundation, a nonprofit health care research and advisory group. Average corporate profitability has grown just 5% since 2012.ⁱⁱⁱ

**Exhibit A:
Average Annual Health Insurance Premiums and Worker Contributions for Family Coverage, 2005-2015**



SOURCE: Kaiser/HRET Survey of Employer Sponsored Health Benefits, 2005-2015



PricewaterhouseCoopers (PwC) has found that direct medical costs themselves have been growing at a rate of 6-7% annually for years. In their report, they can only conclude that “the ‘new normal’ is not sustainable.”ⁱⁱⁱ

Orthopedics comprises almost one-third of all health care expenditures at a cost approaching \$510 billion or 5% of GDP.^{iv} Surgery has been the prevailing treatment option for orthopedic injuries, despite limited evidence to support its efficacy. Employers can save as much as 80% or more on their orthopedic spend and deliver superior outcomes by embracing the disruptive technology.

Health care costs have “exceeded inflation by two or three times. This is what keeps business owners up at night,” Ken Ewell, president and COO of insurance consultancy The Graham Company, tells *Risk & Insurance*.^v

Intel, for example, estimates that its health care expenditures may have tripled from 2004 to an excess of \$1B in 2012.^{vi} To date, employers have responded by accepting a hit to their P&L and transferring some of the costs to employees. This trend is unsustainable.

Employers are embracing the “employer-led health care revolution.”

Intel’s ambitious push to “redesign the local health care system” to favor evidence-based care options, reduce waste, and create a more efficient supply chain is a winning example of this revolution. But what does that mean in practice?

According to Harvard Business Review, employers need to “invest less money in high-end, complex technologies and more in technologies that simplify complex problems.”^{vii} Disruptive technologies with proven results offer the greatest opportunity.

Orthopedics comprise almost one-third of all health care expenditures

The American Journal of Orthopedics

Employers need to be bold:

Orthopedic health care has moved forward, just as the NFL's Orthopedic Surgeon James Andrew envisioned. Now it is up to employers to take advantage of the opportunity to control costs and improve outcomes.

When it comes to orthopedic conditions, until now, employers had no good options; surgery might have been the only recourse available to their employees, and ineffective cost management remains the norm until senior executives get involved in the process to manage it like the rest of their business. In most companies, health plan decisions get made by managers or departments who don't have P&L's.²

The solutions are changing, in much the same way cardiovascular care has evolved. At one time, a cardiac patient with clogged arteries had open heart surgery as the only option. Disruptive technologies and techniques evolved and created a new specialty, *Interventional Cardiology*. This made cardiac care less invasive, less expensive, easier for the patient, and much more cost-effective.

Orthopedics can now follow the same path. With interventional orthopedics, much of the expensive and surgically aggressive care can be replaced with less expensive and minimally invasive techniques that take advantage of the body's ability to heal itself.

The British Medical Journal describes the evidence in favor of orthopedic surgery as “scandalously poor.”

Most employers don't realize they can incorporate these solutions into their employee health plan design. The good news is that when self-funded employers step up and ask to add these additional orthopedic treatment options, Regenexx has found that 99.7% of

employees will choose Interventional Orthopedic treatment over surgery, and for the employer, the cost savings can reach upwards of 84% -- not including savings from decreased time off and increased employee retention.

Giving employees the option to choose creates a win-win scenario where highly satisfied employee receive the care they need and the company can reduce its costs.

Meredith Corporation: Case Study

How one forward-thinking employer took charge of their own healthcare revolution, reduced orthopedic costs by over 80%, and flatlined their rate of health cost increases.

Leading media and marketing company Meredith Corporation believes in building value for customers, shareholders, and employees alike.^{viii} “We are primarily a creative organization,” says Chairman and CEO Steve Lacy, “but we have a long-term commitment to our employees, and we try to create an environment worthy of their careers.”

Meredith implemented an ambitious corporate wellness program that has seen tremendous success. “It has delivered dramatic ROI to shareholders,” says Lacy, “but more importantly, there’s a high probability that we have saved a few lives.”

Before their wellness program initiative, Meredith’s health costs had been growing at a

rate of 15-18% per year. After, that rate has fallen to just 1-2%.

Interventional Orthopedic treatment options fit their vision of investing in a smarter and more cost-effective wellness package for employees. It gives employees an alternative to what would otherwise be very difficult surgical procedures and recovery experiences. In other words, not only does it allow employees to choose not to have surgery and to recover very quickly at lower cost, it reduces absenteeism and pain and suffering.

Meredith independently validated the cost savings with their third-party administrator, UMR, to verify the real savings (see table below). Stem cell treatment is simply far less expensive than surgery.

Area of treatment	No. of procedures	Allowed surgical cost	Interventional Orthopedics	Savings	% reduction in costs
Elbow	2	\$50,124	\$3,800	\$46,324	92.4%
Hip	6	\$147,281	\$14,832	\$132,449	89.93%
Knee	16	\$521,237	\$120,032	\$401,205	76.97%
Other	7	\$155,862	\$27,524	\$128,338	82.34%
TOTALS		\$874,380	\$166,188	\$708,192	80.99%

Table 1. Savings from Meredith’s use of Regenexx stem cell treatments.

23 of the 31 cases in the previous chart returned patient satisfaction surveys. Nearly three-quarters indicated that pain had improved by at least 75%. In other words, the company saved nearly three-quarters of a million dollars while simultaneously achieving significant pain relief for its employee. With good results and shorter recovery periods, The Regenexx Interventional Orthopedic options also helped to reduce absenteeism, according to Lacy.

Meredith employees are grateful for the choice. Todd B. had been facing a hip replacement to deal severe with arthritis pain. He learned about Regenexx treatment options at a company meeting. “It gave me a lot of hope.”

Faced with a difficult surgery, he opted to have the Regenexx procedure. “the procedure was a huge positive,” he says. The procedure took only a single day, he was back at work the next day, and he required only a single dose of pain medication to deal with ensuing discomfort. By the three-month check-in, his pain levels had improved by 80%, and he was back to resuming regular activities like running.

The surgical alternative for Todd would have been an \$80,000 - \$90,000 hip replacement with a lengthy recovery period with a lengthy recovery period and potentially extensive time away from work.

“You have no idea how appreciative I am. I will personally be thanking our CEO for option to choose a Regenexx procedure”

Meredith employee
Knee procedure

The Regenexx procedure, by contrast, cost less than \$10,000.

Meredith also reviewed its high cost claimants; i.e. anything that pierced its reinsurance limits. The average high cost orthopedic claim was between \$45,000 and \$60,000 for plan years 2015-2017 and averaged around 10% of all large claims. The claims ranged from \$25,000 to an \$200,000 on a spinal fusion.

These high cost claims are typical based on the experience of many employers now benefiting from the Regenexx option, but cost savings aren't the only consideration. Feedback from employees shows how appreciative they are of having an option, a fact validated by 99.7% choosing a Regenexx procedure after having an evaluation.

Meredith employee feedback

- “I really considered the options I had. After reviewing all of the information Regenexx provided I felt like it was an easy decision.”
- I’m so grateful I had this option because I had surgery on my other knee and I know the difference.”
- “I was struggling just to function at work. Now that I’m pain free I look forward to each day again.”

Investigate your Orthopedic costs

Employers are revisiting the unnecessary orthopedic surgeries that can be replaced by Interventional Orthopedics.

The “employer-led health care revolution” exposes traditional orthopedic healthcare decisions. Every company is in the business of healthcare, and utilizing proven medical alternatives that provide a better value for the healthcare dollars being spent is crucial to business survival.

Executives understand immediately the opportunity to implement a strategy that generates savings that drop straight to the bottom line and drive the asset value of their enterprise.

Meredith saw that orthopedics is primed for this kind of health care revolution. Many employers meet with us and don’t have a strong idea of what their actual orthopedic costs are. They are disappointed by a lack of strategies being deployed to control these dollars.

James Andrew, M.D., the NFL’s Orthopedic Surgeon, told *Sports Illustrated*, “We have had one big revelation in sports medicine over the last 50 years, and that was the arthroscope. I’ve been looking for the next wave, and I think the biologics, and enhancement of the healing properties, will be it.”

Take a closer look at how one procedure can dramatically reduce orthopedic costs; a total knee replacement that could be treated with orthobiologics instead.

Surgical costs are often hard to understand as there is a myriad of codes for a single procedure, priced through EAPG or DRG. Just gathering the full cost of your surgeries requires some expertise

in asking the right questions. The sum of these costs is just under \$50,000 nationally. The Regenexx approach, by comparison is under \$10,000.

Offering the choice for a less expensive option seems obvious. The next step is to understand the outcomes comparison between traditional surgical options and Interventional Orthopedics.

	Knee Replacement	Regenexx Procedure
 Imaging	\$2,000	\$300
 Physical Therapy	\$1,000	\$1,000
 Procedure	\$48,600	\$6,900
 Office Visits	\$1,000	\$1,000
Totals	\$52,600	\$9,200

Table 3. Knee procedure cost comparison

Regenexx Works

Far from compromising outcomes, regenerative stem cell procedures are safer and more effective than surgical alternatives.

The truth about expensive surgery: it is prescribed less because of its effectiveness and more because of its prevalence.

In the past, insurance companies added orthopedic surgeries to their fully insured plans *not* because they presented the most effective method to heal the cause of pain but because the surgery was the prevailing medical treatment *regardless* of effectiveness and no other prevailing treatment protocol was widely available (which is no longer true).

Only 20% of surgeries are supported by at least one randomized controlled trial showing it is superior to a non-operative alternative. In fact, *British Medical Journal* (BMJ) describes the evidence in favor of orthopedic surgery as “scandalously poor.”^{ix} The 80% that are not supported are all currently covered by your health plan, and as a fiduciary this demands your attention.

In addition to mixed or poor outcomes, surgery can present unintended consequences, such as progressing the problem or necessary future revisions.

Meniscectomy is one of the most common surgical procedure in the world. A pair rubbery disks called the menisci (singular meniscus) cushions the knee joint. A surgical procedure might cut out a portion of the meniscus; however, removing 30% of the meniscus results

in 70% more force on the joint speeding the cascade to a total joint replacement.

Research on ACL reconstruction from the American Orthopedic Society for Sports Medicine (AOSSM) has found that second ACL injuries are six times more likely within the 24 months following a knee reconstruction procedure.^x The surgery fundamentally alters the biomechanics of the joint, thus the knee and leg lose the natural stability of the ACL.

Total joint replacements, even when they are successful, are not forever solutions; and particularly if they are performed relatively early in a person’s life, a surgical revision down the road is all but guaranteed. That was the situation faced by Meredith employee Todd B., mentioned earlier, who had already had a hip replacement and was considering another one.

A total knee replacement – one of the most commonly approved and provided surgeries, paid for by virtually every health plan in the U.S., including Medicare – has exactly one randomized controlled trial behind it.^{xi} Even worse, the results from that trial indicate that you would need to treat five to six patients *before* you see a 15% improvement in function in one of those patients.

Regenexx has tracked 5,852 knee procedures completed using its patented technique between 2005 and August 31, 2017. Out of those, 87.3% did *not* require a knee replacement procedure. In fact, when benchmarked against physical therapy, stem cell treatments generate statistically significant improvements in both pain and functionality. Our registry data is updated monthly and available in real time, by body part, on our website.

Regenexx has also published over 50% of the literature in the world on orthopedic stem cell treatments.

Beyond efficacy, half of orthopedic surgeries appear to result in adverse events. A 2017 study of 1,552 patients found that 47% of all patients experienced at least one adverse event within 90 days of the procedure.^{xii}

By contrast, a study of 3,012 stem cell injection procedures published in *International Orthopedics* found only 325 adverse events (of which only 36 were considered “serious”) reported – a 1% rate of serious complication, and an adverse reaction rate 77% lower than surgery. Post-procedure pain accounts for the largest category of those adverse events.^{xiii}

In fact, a Regenexx® stem cell injection, by contrast, typically carries only the same risks as any injection: mild to moderate local pain and swelling.

Should orthopedic surgery still be considered?

Yes, but it no longer should be the only option.

The problematic state of research around orthopedic surgery does not mean surgery should never be used. Far from it. The key is to understand when surgery is the best or only option, versus opportunities to use regenerative techniques. Orthopedic surgical procedures are still indicated for certain situations and groups, particularly for those who are severely disabled.

Similarly, not everyone is necessarily a good candidate for stem cell treatments. Patients need to be carefully evaluated and screened prior to *any* orthopedic procedure.

However, the state of the research makes it imperative that employers, and employees scrutinize each situation to determine the best course of treatment.

About Regenexx®

Regenexx® is a national network of musculoskeletal doctors specializing in the nation's most advanced regenerative medicine protocols, developed and patented by Regenexx®. We have developed a family of medical procedures that use a person's own stem cells and blood growth factors to help treat musculoskeletal injuries and degenerative conditions. Our physicians practice "Interventional Orthopedics" by providing non-surgical biologic therapies delivered with image guidance.

We partner with employers to reduce costs, improve outcomes, and deliver better satisfaction to their employees for orthopedic care. For more information please contact us to schedule a detailed overview on how to add the Regenexx procedures to your health plan.

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