



KEY TAKEAWAYS

- ✓ **Duke University** researchers conducted **independent health economics and outcomes research (HEOR)** comparing **health outcomes** and **long-term cost savings** of the Regenexx protocol to those of common spine and knee surgeries.
- ✓ This month's newsletter looks at the **Duke study's knee data**, which compared Regenexx protocol cost savings and outcomes to those of:
 - **Total knee replacement (TKR)**
 - **Partial knee replacement (PKR)**
 - **Meniscus surgery**
- ✓ Duke knee research **highlights what Regenexx data have historically demonstrated** when compared to surgery:
 - **Significant long- and short-term cost savings**
 - **Low surgery crossover**
 - **Lower downstream healthcare utilization and fewer complications** (particularly when compared to TKR/PKR)¹
- ✓ Patients with Regenexx protocol had **~37% fewer physical therapy (PT) visits** vs. patients who received TKR/PKR at 1 year.¹

Regenexx[®] at Work

JUNE 2026 | VOLUME 43

 5-MINUTE READ

Duke University + Regenexx: Knee Research Roundup

May's *Regenexx at Work* newsletter gave a snapshot of the spine data from the **recent independent HEOR study conducted by Duke University researchers**. This month, we'll take a closer look at the knee portion of the study, which compared the **health outcomes** and **long-term cost savings** of the Regenexx protocol* to those of **TKR, PKR, and meniscus surgery**, respectively.

**Regenexx protocol utilized injections of the Regenexx provider patient's own cells (from bone marrow concentrate, which contains stem cells, and/or platelet-rich plasma).*



Common knee surgery downsides cut deep

Knee surgery is appropriate and helpful sometimes. In some cases, however, it can be:

1. Unnecessary

- About **one-third** of TKRs have been demonstrated to be **inappropriate**²

2. More harmful than helpful in the long run

- Meniscus surgery can lead to:
 - **Higher incidence of needing TKR later in people with knee osteoarthritis (OA)**³
 - **Increased risk of knee OA**⁴
- **20% of patients report being dissatisfied** with TKR surgery outcomes⁵

3. No better or worse than placebo

- A recent 10-year follow-up study found that, compared to placebo procedure, patients who had meniscus surgery for degenerative meniscus tears⁶:
 - Experienced outcomes **no better or even worse than placebo**
 - Demonstrated a pattern of **more symptoms, decreased function, faster progression** to arthritis, and a **higher likelihood of requiring knee surgery later**

Low value



It's time to rethink high-risk, low-value knee surgeries.

The Regenexx protocol can help members **postpone** or **avoid common knee surgeries** by providing a needle-based option in knee care.

New Duke real-world research: Lower costs, less crossover to surgery, fewer complications

The **new Duke knee research supports the outcomes Regenexx has been observing for years** when compared to surgery. Take a look at the following highlights¹:



Significant short- and long-term cost savings across all time horizons (1-4 years).

- Trends in costs generally held consistent over 4 years, particularly for TKR/PKR



Lower rates of follow-up surgeries.

- **Meniscus surgery wasn't just delayed—it was avoided altogether** through 4 years of follow-up
- All rates for matched analyses were **below the minimum reporting threshold** (this threshold helps to protect privacy when rates are too low to report individually)

Note: Rates of re-operation after initial TKR/PKR were similar to reoperation rates published in other studies.



Significantly lower downstream healthcare utilization for Regenexx protocol vs. TKR/PKR (including imaging, PT, and outpatient visits) at 1 year.

- **X-ray:** 15% for Regenexx protocol vs. 94% for TKR/PKR
- **PT visits:** ~37% fewer for Regenexx protocol vs. TKR/PKR
- **Outpatient visits:** ~36% fewer for Regenexx protocol vs. TKR/PKR

Note: Healthcare utilization was generally similar between groups for Regenexx protocol vs. meniscus surgery.



Major adverse events were rare for Regenexx protocol.[†]

- **Regenexx protocol vs. TKR/PKR | Regenexx protocol vs. meniscus surgery**
 - Adverse events were below reporting threshold (<11) for Regenexx protocol

[†]Adverse events were restricted in the Duke study by suppressing data where rates fell below the minimum reporting threshold where applicable.

Take a look at these Duke study highlights for TKR/PKR and meniscus surgery, respectively, over 4 years¹:

Regenexx Approach Compared to TKR/PKR

Time Horizon	COST SAVINGS		DURABILITY	
	✂️ Cost Savings (Commercial Payer Avg. Costs)	✂️ Surgical Conversion Rate	✂️ Surgical Conversion Rate	TKR/PKR Reoperation Rate
1 year	~\$13,556 less	TKR/PKR cost ~1.8x more than the Regenexx approach across all time horizons (1-4 years).	Below reporting threshold	~11.3%
2 years	~\$11,796 less		↓	~12.2%
3 years	~\$10,810 less			~11.2%
4 years	~\$11,360 less			~11.7%

~45% cost savings at Year 1

~1 in 9 TKR/PKR patients required a subsequent same-side procedure each year through 4 years.

Note: "Below reporting threshold" indicates fewer than 11 surgical conversion events were observed among Regenexx provider patients at every follow-up; the arrow indicates this held through 4 years. "Surgical conversion rate" refers to Regenexx provider patients who went on to TKR/PKR. "Reoperation rate" refers to TKR/PKR patients who required a subsequent same-side procedure.

Regenexx Approach Compared to Meniscus Surgery

Time Horizon	DURABILITY			
	✂️ Surgical Conversion Rate	Meniscus Surgery Repeat Procedure Rate	Meniscus Surgery Progression to TKR/PKR	
1 year	Below reporting threshold	Regenexx provider patients rarely went on to meniscus surgery across all 4 years.	~5.1%	~1.9%
2 years	↓		~6.0%	~3.5%
3 years			~7.2%	~5.2%
4 years			~7.1%	~6.0%

~1 in 17 meniscus surgery patients progressed to knee replacement by Year 4.

Note: "Surgical conversion rate" refers to Regenexx provider patients who went on to surgery. "Below reporting threshold" indicates fewer than 11 surgical conversion events were observed among Regenexx provider patients at every follow-up; the arrow indicates this held through 4 years. "Repeat procedure rate" refers to meniscus surgery patients who required a subsequent same-side meniscectomy. "Progression to TKR/PKR" refers to meniscus surgery patients who subsequently underwent knee replacement.

Contact us to learn more about the Duke knee study—and why it found the Regenexx approach delivers **cost savings, low crossover to surgery,** and **fewer complications** for patients with **knee OA** and **degenerative meniscus tears.**

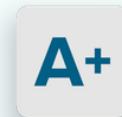
Contact Us

What is the
Regenexx[®]
Corporate Program?

The Regenexx Corporate Program provides **MSK cost savings for self-funded employers**. According to a Validation Institute cost-savings analysis, **procedures using Regenexx injectates were ~50% less expensive than the surgery avoided.**⁷

The program continues to see traction among employers, brokers, and third-party administrators who have chosen to partner with us. The Regenexx benefit is no cost to add and simple to include in any self-funded healthcare plan.

Learn how adding the Regenexx benefit can **reduce costs by up to 70%** on individual surgeries while offering members a new option in care.⁸ Contact your Regenexx Corporate Sales Representative to learn more.



6151 Thornton Avenue, Suite 400
Des Moines, IA 50321

regenexxcorporate.com
877-341-5968

Note: The Duke HEOR study data have not yet been finalized by authors. It may contain errors and report information that is not yet accepted or endorsed by the scientific or medical community.

Cost avoidance estimates for individual groups are not reflective of the potential cost avoidance estimates for another group. Any estimate of cost avoidance for a group is specific to their employee population. To understand how your company's surgical experience may relate to the Regenexx approach, you can request a [Regenexx Corporate Program Impact Study](#).

Cost savings estimates: Physicians within the licensed Regenexx network indicate the surgical procedure for which Regenexx provider patients are a candidate. The Regenexx Corporate Program then measures the actual cost of the procedure using Regenexx lab processes against the cost of the surgical alternative. While the Regenexx Corporate Program does post service reviews and assess a percentage of Regenexx provider patients, not all these cases have been verified by a third party. Fair cost estimates based on Denver, CO ZIP code. In some cases, a generic "arthroscopy" cost estimate had to be used when a detailed condition-specific estimate was unavailable.

Like all medical interventions, procedures using Regenexx lab processes have a success and failure rate. Regenexx provider patient reviews and testimonials in this email should not be interpreted as a statement on the effectiveness of regenerative therapy for anyone else. Industry professional reviews and testimonials reflect the experience of that entity with the Regenexx Corporate Program. To discuss what a partnership with Regenexx could look like for your company or client, [contact our team](#).

The information provided by Regenexx is for informational purposes only and is not intended or implied to be a substitute for professional medical advice, diagnosis, or treatment. Regenexx is not a teaching institution or medical practice, and does not engage in the training of physicians or the practice of medicine. Physicians listed on the Regenexx websites are independent contractors who have licensed certain Regenexx intellectual property. Nothing on the Regenexx webpages, the Regenexx blog, any informational videos, or other marketing materials should be interpreted as endorsing a particular physician or establishing an employer-employee, partnership, or agency relationship between Regenexx and any physician.

© Regenexx Corporate 2026. All rights reserved.

References

1. Duke Clinical Research Institute data on file.
2. Riddle DL, Jiranek WA, Hayes CW. Use of a validated algorithm to judge the appropriateness of total knee arthroplasty in the United States: a multicenter longitudinal cohort study. *Arthritis Rheumatol.* 2014;66(8):2134-2143. doi:10.1002/art.38685
3. Park CM, Ryoo S, Choi M, Lee SJ, Yoo JJ, Kim HA. Total knee replacement after arthroscopic meniscectomy in knee osteoarthritis: a nationwide population-based cohort study. *J Korean Med Sci.* 2023;38(1):e6. doi:10.3346/jkms.2023.38.e6
4. Blomgren J. Choosing Wisely: avoid recommending knee arthroscopy. American Medical Society for Sports Medicine website. <https://www.amssm.org/choosing-wisely:-avoid-recommending-knee-arthroscopy-va-25.html>. Published July 24, 2015. Accessed February 12, 2026.
5. Wiesman H, Beckmann S. 'I'm in constant pain, 24/7': meet the one-third of patients who regret knee replacement surgery. Advisory Board website. <https://www.advisory.com/daily-briefing/2019/01/07/knee-replacement>. Published January 7, 2019. Updated March 20, 2023. Accessed February 12, 2026.
6. Kalske R, Sihvonen R, Paavola M, et al; FIDELITY Investigators. Arthroscopic partial meniscectomy for degenerative tear—10-year outcomes. *N Engl J Med.* 2026;394(17):1757-1759. doi:10.1056/NEJMc2516079
7. Validation Institute. *Validation Report*. Published 2023. Accessed May 14, 2024.
8. Regenexx data on file.

Regenexx will never sell your information and is committed to your privacy. Read about our [Privacy Policy](#), the way we use information, and our commitment to data security. If you decide that you're no longer interested in receiving the Regenexx at Work Newsletter, we'll be sorry to see you go. Please reply to this email to let us know you'd like to opt out of receiving future issues of the Regenexx at Work Newsletter.