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Editorial

MOTIV™ and the Next Frontier of Orthopaedic Evidence Generation: A New Model for Physician-Led Clinical Research

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MOTIV™ – Musculoskeletal Outcomes and Tracking Intelligence Vault – is an initiative is designed to help orthopaedic physicians participate more directly in real-world evidence generation across all practice settings. The surgeon contributors define the clinically relevant questions and supply the ground-truth observations from their own care. MOTIV™ connects the initiative to the broader mission of advancing orthopaedic research.

This article was developed through a collaborative initiative between the Orthopaedic Research and Education Foundation (OREF) and RegenMed to advance physician-led, real-world evidence generation in musculoskeletal care.

Orthopaedic "innovation" is often described in physical terms: A better implant, a more precise robot, a new biologic, a less invasive exposure, a more effective pain protocol, or a more efficient site of care. Of course, these advances matter. They have helped make musculoskeletal care one of the most technically dynamic areas of medicine. However, the next important frontier of orthopaedic innovation may be less visible but no less important: the system by which clinical evidence is generated, governed, and returned to the surgeons and patients.

That frontier matters because meaningful participation in clinical research remains unevenly distributed. Academic medical centers, large integrated health systems, and industry-sponsored clinical trial networks possess the research coordinators, infrastructure, institutional review boards, analytic support, and publication pathways that are necessary to convert clinical questions into formal evidence. Yet, a substantial share of musculoskeletal care occurs outside of those environments including, for example, private orthopaedic practices and ambulatory surgical centers, community hospitals, and regional multi-specialty groups.

Surgeons in those settings make daily decisions that shape patient recovery including functional improvement, pain control, and product adoption. They also drive quality, cost, and value. Their experience is clinically rich, but it is often difficult to translate that into research-ready evidence. The problem is not a lack of clinical insight or expertise. Rather, the problem is that the infrastructure for turning routine care into structured, longitudinal, useful data has not kept pace with where and how musculoskeletal care Is actually delivered. That is the unmet need that MOTIV™ is intended to address.

MOTIV™ – Musculoskeletal Outcomes and Tracking Intelligence Vault – is a joint venture between the Orthopaedic Research and Education Foundation and RegenMed. The initiative is designed to help orthopaedic physicians participate more directly in real-world evidence generation across all practice settings. The surgeon contributors define the clinically relevant questions and supply the ground-truth observations from their own care. RegenMed provides the technology and support infrastructure. OREF serves as a formal partner and collaborator, helping connect the initiative to the broader mission of advancing orthopaedic research.

MOTIV™ begins from a premise that is increasingly important in modern healthcare: more data are not necessarily better data. Electronic medical records, claims databases, and implant registries each have value, but they also have predictable limitations. They are sometimes incomplete, fragmented, and downstream from the clinical event. They can be poorly linked to the current question being asked or unable to capture the clinical nuance that surgeons and patients need. Traditional research studies that rely on these types of tools may answer a narrow question in a controlled population. However, none of these tools by themselves, nor the studies that flow from them, can fully address the need for the practical, prospective, and physician-engaged generation of evidence from routine orthopaedic care.

MOTIV™ is intended to complement those approaches by structuring evidence before it is even collected. Participating surgeons work from defined observational protocols. These data-capture frameworks use plain language and are clinically designed. They specify which patient-reported outcomes, clinician observations, operative variables, recovery milestones, and follow-up measures should be collected for a particular clinical question. The goal is not to create additional administrative burden. Instead, it seeks to make high-quality evidence generation a more natural byproduct of an efficient clinical workflow.

This structure is especially important as orthopaedic surgery responds to the growing role of patient-reported outcomes and value-based care. The Centers for Medicare & Medicaid Services total knee arthroplasty patient-reported outcome performance measure has helped focus attention on functional recovery and patient-reported improvement. However, a model that captures only the required CMS minimum will miss much of what surgeons need to learn. At the other extreme, a model that captures too much will fail in practice. The useful middle ground is a prospective structure that is clinically meaningful, feasible at the point of care, and capable of supporting longitudinal analysis.

The first data "Circle" within MOTIV™ is focused on total knee arthroplasty. TKA is an appropriate proof-of-concept because it is common, largely successful, technically variable, and clinically rich. Outcomes may be influenced by patient selection, comorbidity burden, implant choice, alignment strategy, surgical technique, anesthesia choice, rehabilitation protocol, pain management strategy, patient expectations, and adherence to follow up. All of these variables, among others, interact in ways that are difficult to understand through current research tools such as code-based registries or isolated intuitional experiences.

The MOTIV™ TKA observational protocol was co-authored by Dr. Andrew Wickline and Dr. John Mercuri, and it was expert-reviewed by several respected OREF orthopaedic surgeons. It is built from the CMS TKA PRO-PM framework while adding clinically relevant domains including product selection, pain management, range of motion, complications, rehabilitation, and recovery curves. The protocol includes patient pre-operative surveys, clinician pre-operative evaluations, operative data, and patient-reported follow up at defined intervals through 12 months. The electronic surveys use responsive logic and workflow tools to reduce burden for physicians, staff and patients.

The early experience is best understood as a positive feasibility signal, not as mature outcome evidence. The initial MOTIV TKA Circle launched in early February 2026. At the time of writing this article, it includes more than 15 orthopedic surgeons from diverse practice environments and more than 225 longitudinal patient cases. Survey completion rates are high: 87% for physicians and 93% for patients. The goal is to expand the Circle to dozens of surgeons and generate at least 2,000 TKA patients with complete longitudinal follow-up. If sustained, that level of participation will allow us to study clinically meaningful clinical questions across real-world practice settings such as range of motion, opiate exposure, pain trajectories, Forgotten Joint Score, and surgeon-level practice variation.

Non-opiate pain management is one of the key areas where contemporary orthopaedic practice needs better real-world evidence. There is rapid evolution in this area with the recent introduction of forward-thinking rehabilitation protocols and new drugs like suzetrigine. The question is not whether a single protocol or pharmaceutical is superior. Rather, the question is whether physician-led observational infrastructure can help determine how evolving pain control strategies affect opiate exposure, pain scores, functional recovery, and patient experience across heterogenous practices. This is precisely the kind of question that requires more detail and flexibility than traditional trials can provide.

The value of the MOTIV™ model is not limited to TKA. The same approach can be applied to hip arthroplasty, spine, sports medicine, biologics, fracture care, pediatric musculoskeletal conditions, rehabilitation, pain management, and other areas where important clinical questions are not being answered quickly or broadly enough. It also creates a pathway for surgeons across academic, community, private-practice and hybrid settings to participate in protocol development, data generation, quality improvement, research collaboration, authorship, and evidence stewardship.

For surgeons, the central promise is professional agency. Physicians should not be treated merely as data sources for institutions, payers, vendors, or registries that are far removed from the patient's bedside. Instead, they should help frame the questions, generate the evidence, interpret the findings, and apply the knowledge back to patient care. For patients, the promise is practical. Better real-world evidence can help surgeons provide granular explanations of expected recovery, pain trajectories, functional milestones, and medication needs. Patients do not want to experience average orthopaedics. They want to experience a specific diagnosis, a specific intervention, a specific surgeon, a specific care pathway, and a personalized recovery curve. Our evidence must become more capable of reflecting that reality for our patients.

For orthopaedics as a field, the opportunity is larger still. Musculoskeletal care needs faster, more practical, and more inclusive evidence generation. Not every question requires a randomized controlled trial. Not every valuable dataset should be created in academic centers or controlled by organizations distant from the treating physician and the patient. A healthier evidence ecosystem should incorporate physician-led, real-world evidence networks and pragmatic trials into the traditional research infrastructure. The OREF/RegenMed MOTIV™ program is an effort to build that missing layer: a research-focused solution for turning everyday clinical care into structured, clinically-useful, real-world evidence.

If this model succeeds, its importance will not be that it created another database. Rather, its importance will be that it helped broaden who can participate in orthopaedic research, how quickly clinically relevant questions can be asked, and how directly evidence can be connected back to patient care. Orthopaedic innovation is not just limited to what enters and exits the operating room. It also includes the evidence systems that allow the field to learn from what happens to our patients and how we improve their lives.

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