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CORR Insights®: What Demographic and Clinical Characteristics Correlate With Expectations With Trapeziometacarpal Arthritis?

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Where Are We Now?

In the current study, Kang and colleagues report patient expectations for the treatment of thumb trapeziometacarpal osteoarthritis (OA), implementing their 2016 validated one-page, 19-question survey. At first glance, their study states

the obvious: Patients tend to choose an injection over surgery, and they have higher expectations for functional return if they choose surgery. But looking deeper, the authors provide the preliminary steps to determining whether our trapeziometacarpal OA treatment is as good as we say it is.

In purely economic terms, the consumer drives the business, and so the patient is the ultimate arbiter of treatment success. Just a few decades ago, it was considered unethical to treat healthcare as a commodity; today it is the reality. Increasingly, we enter contractual relationships that reflect both engaged and informed parties on both sides of the exam room. We seek

“patient buy-in,” we enter “doctor-patient contracts,” and come to “shared-decision making.” Economists and recent legislation have introduced value-based care with a mathematical formula to define it (value = quality/cost) in the language of healthcare economist Michael E. Porter MBA, PhD [17]. The numerator, “quality” represents outcomes, metrics, and various instruments to assess care processes. These are “inherently condition-specific and multidimensional” [17], and thus subject to fluctuating standards. They remain controversial as to their utility, they are open to interpretation, and are politically charged.

Take, for example, the quality-based Press-Ganey scores [18]. Healthcare systems use these scores aimed at “understanding and improving the entire patient experience.” Items such as timeliness, friendliness, and the waiting-room environment may assist the organization to “transform the patient experience and create continuous, sustainable improvement”

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[18]. These metrics, however, often frustrate participating physicians. Not only are they unconnected to the surgeon's ability and capability to diagnose and treat a clinical problem, they are unrelated to the surgeon's need to know how well a treatment works. Whether an intervention improves the patient's ability to open a jar, button a shirt, or sleep without pain are assessments utterly detached from the waiting room experience or the likelihood to recommend.

Make no mistake, however, expectations are critical to the patient's perceived success. The trapeziometacarpal arthritis survey by Kang and colleagues takes a small step in making sense of the patient as arbiter of quality, with quantified metrics. Many of us do this in a "qualitative" sense everyday—we learn to "manage expectations" as part of our patient interactions. With experience, we learn never to guarantee complete return of function, full ROM, and lack of pain as expected outcomes. My mid-career mantras run more like, "under promise and over deliver;" and, to the overly anxious patient, "I'm sorry, I believe your expectations exceed my capabilities."

The Kang survey predicts an era in which we create target zones that match patient-derived expectations to ever-improving treatment offerings. The efforts of Kang and colleagues,

and the other contributors to patient expectations in orthopaedic treatment across various disease states [1, 3–7], will help us refine these patient discussions.

Where Do We Need To Go?

We need to better understand thumb trapeziometacarpal OA. How does the trapeziometacarpal joint work? How does arthritis occur? What is the relationship of other joints to the function of the trapeziometacarpal joint? Can you delay progression? And, finally, can we create better ways to predict, prevent, and treat it?

Expanding and validating the survey across broad patient demographics and treatment interventions will be required to enhance our scope of thumb trapeziometacarpal OA. Demographic expansion includes geography, ethnicity, age, sex and gender, and occupation/avocation.

Treatment interventions include therapy, splint usage, injections, and surgical procedures. With such expansion, imagine comparing two patients: One, a 62-year old former marathoner, now with severe radiographic arthritis, who has recently given up golf, knitting, and picking up her 2-year-old grandson. The other, a 50-year old postal worker with Type-2 diabetes and accompanying trigger fingers and carpal tunnel

syndrome. Each may have different expectations and may choose different treatment options across the spectrum of nonoperative and operative interventions. We might anticipate that the former expects to do everything again, whereas the latter expects to work again; then again, we might be entirely wrong about assumptions like those. Such expectations will only be supported or refuted with refined surveys and future analysis.

How Do We Get There?

In order to tailor treatment and rehabilitation, especially to targeted patient populations, we need kinematic and kinetic studies that examine the normal trapeziometacarpal joint in daily and forceful activity, as well as across the disease spectrum. Preliminary studies measuring the kinematics of grasp, pinch, and jar twist with a simulated load cell in subjects with no arthritis [9], and measuring a statistically significant decrease in pinch and grasp with the same load cell in individuals with early arthritis is a start [8, 12]. Such functional simulation paves the way for designing devices that simulate, for instance, how we tear off plastic wrap from a vitamin bottle or flip open an Eppendorf tube. Furthermore, defining who develops symptomatic arthritis based on

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occupation, comorbidities, or family tree will allow us to play a role in simplifying everyday life, and manage it better when the joint wears out. Creating everyday implements that minimize joint load may prevent arthritis for certain individuals; designing implants that tailor to a pattern of wear may improve function for those with end-stage arthritis.

Investigators performing patient expectation studies will likely be partnering their demographic analysis with various patient-reported outcomes, such as the NIH-sponsored Patient Reported Outcomes Measurement Information System (PROMIS) [16], DASH, and patient-rated wrist/hand evaluation [10, 11]. This robust demographic information will permit surgeons to better understand who might benefit from a splint alone; from injection and how many; or from surgery.

Orthopaedics has recently entered the patient-centric funding arena. The Patient-Centered Outcomes Research Institute (PCORI) is a non-US government, but heavily-funded consortium that requires patient input on analyses of major disease processes [13]. PCORI funds “research that can help patients and those who care for them make better-informed decisions” [13]. The first large orthopaedic PCORI grant has been awarded to Vincent Pellegrini and colleagues,

examining comparative effectiveness of pulmonary embolism prevention associated with hip and knee replacement [14].

PCORI has furthered their funding commitment of USD 22 million to examine surgical and nonsurgical management of chronic lower back pain [15]. The input of the American Academy of Orthopaedic Surgeons’ Council on Orthopaedic Research and Quality in promoting their Unified Research Agenda has influenced this recent priority of including patient’s perspective in evaluating the burden of musculoskeletal disease [2].

Having a patient-centered evaluation indicating the best ways to treat thumb arthritis will ultimately determine our collective success. This survey provides one step toward rounding out the continuum of doctor-patient relationship. The informed consumer has a stake in the game of treatment success. After all, it is their hands—not ours—that button the shirt and hug the grandchild.

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