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CORR Insights®: Can Original Knee Society Scores Be Used to Estimate New 2011 Knee Society Scores?

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Where Are We Now?

As a health-services researcher with a specialty in examining outcomes after major orthopaedic procedures, I have a special interest in the validity and reliability of data used not only in research studies, but also in reports on quality, patient

safety, and patient outcomes. We are being asked as orthopaedic practitioners (and as a health profession overall) to report more and more information; this information then gets reported publicly. There have been lengthy discussions about the burden of reporting, the accuracy of what gets reported, how best to risk-adjust patient outcomes for differences in patient comorbidities and differences in care, how to incorporate patient-reported outcomes with other outcomes data, and how to help patients and other consumers of this information to interpret what gets reported [3–5]. As measures of quality have proliferated, so have the efforts of the orthopaedic community to keep up and to propose better, more reliable, and more objective measurement criteria.

One of the major barriers to good measurement criteria (and therefore,

our ability to provide meaningful measurement that balances what is available in administrative databases compared to the complexity of actual clinical care) is the adoption of electronic medical records. Many institutions face the need to capture data that had been kept in written patient records, reconcile that data with current medical practices, and to capture data about patient outcomes prospectively. The recent change from using ICD-9 codes to using ICD-10 codes has made this task even more complicated as we strive to match comorbid conditions, prior procedures, and treatments in administrative and clinical systems over time. We have a long way to go.

Where Do We Need to Go?

Total joint arthroplasty has understandably received a lot of attention from insurers and the Centers for Medicare & Medicaid Services; these are costly procedures with ever-increasing demand from an aging population [6, 7]. One of our best methods to show insurers, policymakers, and the public how we care

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for patients with osteoarthritis is to report outcomes that have been vetted by orthopaedic professionals in conjunction with measurement experts and patients.

As Odum and Fehring point out, we have several condition- and procedure-specific measures, but it is often difficult to compare results directly between studies and between instruments. Their study provides the methodology for a conversion algorithm between the original 1989 Knee Society Score (KSS) and the newer (2011) version. This is a great first step, but more study is needed to establish the validity and reliability of the conversion; the authors point out that the conversion can be applied with confidence on the cohort or aggregate level, but its utility might not be applicable to the individual patient, which is of concern. This is not a novel issue. In fact, it was a main reason that the national Patient-Centered Outcomes Research Institute was started. Many instruments were developed for population use versus individual use, but we often have to deal with helping the individual patient make the best decision about how to proceed with their individual treatment.

In addition, we need more objective ways to measure outcomes in patients who have had revision surgery, which is becoming increasingly common in the United States [6, 7]; the Odom and Fehring study does not provide a conversion algorithm for the KSS for this population.

How Do We Get There?

The American Academy of Orthopaedic Surgeons (AAOS) Appropriate Use Criteria for nonarthroplasty treatment of osteoarthritis of the knee and AAOS Evidence-Based Clinical Practice Guideline for arthroplasty/surgical management show the complexity of the information available to clinicians and patients to make decisions about timing and type of treatment [1, 2]. However, these documents also demonstrate the ability of our profession to come together and build consensus to shed light on what kinds of studies need to be conducted to reduce the current gaps we see in the currently available, evidence-based information.

The American Joint Replacement Registry, recently approved as a qualified clinical data registry for the Physician Quality Reporting System, is leading efforts to automate electronic record retrieval that will satisfy reporting requirements while hopefully reducing reporting burden for providers. We should feel hopeful that registries like this will allow us to have access to information that has been collected in other countries for many years, with the ultimate goal of using the information to measure specific, risk-adjusted, patient-specific outcomes that can truly reflect care for our patient populations.

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