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CORR Insights

CORR Insights®: What is the Minimum Clinically Important Difference in Grip Strength?

Bradley C. Carofino MD

Where Are We Now?

There is a trend towards evidence based medicine in the field of orthopaedic surgery, which will be even more prominent in the future. Evidence based medicine compares treatment options looking for differences in outcomes. The superiority of a treatment is often based on reporting a statistically significant difference. Clinicians are looking to this outcome data in order to choose best practices, and insurers are examining this data as part of pay-for-performance reforms. However, not all statistically significant differences are clinically meaningful, and therefore if evidence based medicine is going to provide recommendations that matter to patients, researchers will need to know the mean clinically important difference (MCID) of the measurements being analyzed.

The MCID is defined as the smallest amount of change in a measurement that a patient would perceive as important. In the field of hand surgery, grip strength is one of the most commonly collected measurements. It is used by both clinicians and researchers to quantify patient function and it represents a practical task. However, despite its long history in clinical studies, the MCID of grip strength has not been previously defined.

Where Do We Need To Go?

We need to define the MCIDs for all important patient-reported outcomes tools, and all commonly used physical findings that have measurable parameters. By defining the MCID for grip strength in patients treated for distal radius fractures, Kim et al. take an important step in the right direction. This provides a framework for clinicians, as it allows us to assess whether the grip strength improvements resulting from treatment are likely to be meaningful to the patient's perception of function. It is also important to realize the limitations of this study, which measures a specific population of patients treated for distal radius fractures that was primarily composed

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B. C. Carofino MD (✉)
Department of Shoulder and Hand Surgery, Atlantic Orthopaedic Specialists, 1800 Camelot Drive, Suite 300, Virginia Beach, VA 23453, USA
e-mail: bradcarofino@yahoo.com

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of older females. As such, the absolute values in this study are not generalizable to grip strength measurement in all patients for all problems, and other studies will need to determine to what degree MCIDs calculated in selected patient populations like this may or may not apply to other patient groups.

How Do We Get There?

We need more research to help us tell how small a difference a patient might perceive as a relevant change in his or her condition. Grip strength may be reported to the level of 0.1 Kg, but Kim et al. have shown that a change of less than 6.5 Kg may not be relevant to patients who were treated for distal radius fractures. Studies like this current research should be done for all of our common outcomes tools, and for the major physical examination parameters. We must remember that statistically significant differences are not always clinically important; the MCID helps us distinguish clinically important differences from others that are not.