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HOOS JR Recommended MCID

After a literature review, the recommended MCID (minimal clinically important difference) for the Hip Dysfunction and Osteoarthritis Outcome Score for Joint Replacement (HOOS, JR.) to be used at Advocate Aurora Health Rehabilitation Services is 18.0.

The criteria for making this recommendation are:

1. That the MCID reflects the patient population seen at Advocate Health Care, specifically patients undergoing elective total hip arthroplasty.
2. That the MCID be greater than the MDC (minimal detectable change).
3. That the MCID be calculated with an anchor-based method (gold standard).

The strongest evidence for the recommendation is based on the findings of Lyman *et al.* (2018), who also developed the instrument. The study analyzed a large group of Medicare patients who received total hip arthroplasty and calculated an MDC (p-value 0.05) of 13.0, with a corresponding anchor-based MCID of 18.0, based on pre-operative and two-year post-operative findings.¹ Kuo *et al.* (2021) analyzed veterans undergoing elective total hip arthroplasty among three Veterans Affairs medical centers. Using pre-operative and one-year post-operative scores, they determined that the anchor-based MCID would be between 17.6 and 18.2, ultimately concluding that a reasonable MCID would be between 17.6 and 18.0.² Guenther *et al.* (2021) analyzed patients receiving total hip arthroplasty at a large orthopedic center and produced an anchor-based MCID of 30.1 to 35.5 at three-month and one-year intervals, almost twice the previous three recommendations.³ Of note, both Lyman *et al.* and Kuo *et al.* utilized anchor questions specifically targeting patient satisfaction and quality-of-life as affected by undergoing hip surgery, whereas Guenther *et al.* anchored their findings based on questions concerning the patient's overall physical health and quality-of-life, which is less surgery-specific compared to the other two studies.^{1,2,3}

Therefore, as two of the three studies recommend a MCID of 18.0 for a diverse patient population undergoing total hip arthroplasty, it is our recommendation that Advocate Health Rehabilitation Services also utilize the MCID of 18.0 for the HOOS, JR. to accurately evaluate our patients receiving total hip arthroplasty.

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References:

- Guenther, Guy, Patrick Albright, Arthur J. Only, Harsh R. Parikh, Brandon Kelly, Fernando Huyke, Patrick K. Horst, and Brian Cunningham. 2021. “Interpreting the Hip Osteoarthritis Outcome Score Joint Replacement: Minimum Clinically Important Difference Values Vary over Time within the Same Patient Population.” *Journal of Orthopaedic Experience & Innovation*, November.
- Kuo AC, Giori NJ, Bowe TR, et al. Comparing Methods to Determine the Minimal Clinically Important Differences in Patient-Reported Outcome Measures for Veterans Undergoing Elective Total Hip or Knee Arthroplasty in Veterans Health Administration Hospitals. *JAMA Surg.* 2020;155(5):404–411. doi:10.1001/jamasurg.2020.0024
- Lyman S, Lee YY, McLawhorn AS, Islam W, MacLean CH. What Are the Minimal and Substantial Improvements in the HOOS and KOOS and JR Versions After Total Joint Replacement?. *Clin Orthop Relat Res.* 2018;476(12):2432-2441. doi:10.1097/CORR.0000000000000456