

Reliability of the ROCK Osteochondritis Dissecans Knee Arthroscopy Classification System - Multi-center Validation Study

James L. Carey, MD¹, Eric J. Wall, MD², Kevin G. Shea, MD³, Nathan L. Grimm, BS⁴, Allen F. Anderson, MD⁵, Eric W. Edmonds, MD⁶, Henry G. Chambers, MD⁶, Benton E. Heyworth, MD⁷, Mininder S. Kocher, MD, MPH⁷, Roger M. Lyon, MD⁸, Michael Lucas Murnaghan, MD⁹, Carl W. Nissen, MD¹⁰, John Polousky, MD¹¹, Jennifer Weiss, MD¹², Rick W. Wright, MD¹³

¹Penn Sports Medicine Center, Philadelphia, PA, USA, ²Cincinnati Children's Hospital Medical Center, Cincinnati, OH, USA, ³St. Luke's Health System, Boise, ID, USA, ⁴University of Utah School of Medicine, Salt Lake City, UT, USA, ⁵Tennessee Orthopaedic Alliance, Nashville, TN, USA, ⁶Rady Children's Specialists San Diego, San Diego, CA, USA, ⁷Children's Hospital Boston, Boston, MA, USA, ⁸Medical College of Wisconsin, Milwaukee, WI, USA, ⁹The Hospital for Sick Children, Toronto, ON, Canada, ¹⁰Connecticut Children's Medical Center, Farmington, CT, USA, ¹¹Rocky Mountain Youth Sports Medicine Institute, Centennial, CO, USA, ¹²Kaiser Permanente Southern California, Los Angeles, CA, USA, ¹³Washington University Dept of Orthopaedic Surgery, Saint Louis, MO, USA

Objectives: Very few predictors of healing have been identified to help guide OCD treatment decisions for patients, families and physicians. As this condition is not common, multi-center study groups will be necessary to determine optimal diagnostic and treatment strategies. For staging systems to be useful, there must be agreement among observers of each stage, and from different centers. Although arthroscopic staging systems exist for OCD, none have been tested for intra-observer and inter-observer reliability. Using an expert consensus method, the ROCK OCD study group developed an arthroscopy classification system for OCD of the knee. The purpose of this study was to determine the reliability of an OCD classification system in a multicenter study group.

Methods: We developed a classification system for arthroscopic evaluation of OCD of the knee based on the experience of a 13 centers experienced in the care of OCD. The classification system produced 6 arthroscopic categories (Cue Ball, Shadow, Wrinkle in the Rug, Locked Door, Trap Door, and Crater). A training module including arthroscopic photos, iconic sketches, and representative videos was developed to describe each stage. A total of 30 representative arthroscopic videos were viewed by 10 orthopedic surgeons who had not participated in the video case selection and preparation. After 60 days, the 30 videos were reviewed a second time in a new, randomly selected order and classified. An inter-rater reliability assessment was performed using the intra-class correlation method.

Results: The intra-class correlation coefficient was 0.92, indicating a very good to excellent reliability of this classification system amongst orthopedic surgeons within the ROCK group.

Conclusion: The ROCK OCD Knee arthroscopy classification system demonstrated high reliability. Relatively rare conditions will require multi-center study groups to perform high quality outcome studies. This classification system will facilitate multi-center studies for OCD.

This open-access article is published and distributed under the Creative Commons Attribution - NonCommercial - No Derivatives License (<http://creativecommons.org/licenses/by-nc-nd/3.0/>), which permits the noncommercial use, distribution, and reproduction of the article in any medium, provided the original author and source are credited. You may not alter, transform, or build upon this article without the permission of the Author(s). For reprints and permission queries, please visit SAGE's Web site at <http://www.sagepub.com/journalsPermissions.nav>.

The Orthopaedic Journal of Sports Medicine, 1(4)(suppl 1)

DOI: 10.1177/2325967113S00074

©The Author(s) 2013