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COMMENTARY

Commentary on Cheatham et al, "Postoperative Rehabilitation After Hip Arthroscopy: A Search for the Evidence"

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In "Postoperative Rehabilitation After Hip Arthroscopy: A Search for the Evidence," Cheatham et al[1] sought to systematically review the available evidence regarding postoperative rehabilitation programs for patients undergoing hip arthroscopy. I commend the authors for addressing a grossly understudied topic and presenting a synopsis of the limited evidence in this area. I appreciate the opportunity to comment on this article, and I will direct my comments to a few key issues that I feel the readers should consider when reviewing this article and interpreting the results for application in a clinical setting. The issues I will address are the heterogeneity of the surgical procedures included in the review, the interpretation of the inclusion criteria for the studies in the review, and caution on the generalizability of the results and clinical recommendations.

Arthroscopic treatment of intra-articular and extra-articular hip pathologic conditions has increased exponentially in the past decade. However, with the expansion in the number and type of conditions that can be successfully treated with this minimally invasive technique, *hip arthroscopy* has become an umbrella term under which very different procedures are grouped. The studies included in this review all examined a postoperative rehabilitation program for patients undergoing arthroscopic treatment for femoroacetabular impingement (FAI) with or without concomitant labral injury, and this should be the only subset of patients treated with hip arthroscopy in which the findings of this review may be applied. It should be noted that the extensiveness of the procedures varied between the studies reviewed, thus making it difficult to apply the findings from the rehabilitation protocols. For example, the study in which outcomes after a comprehensive rehabilitation program after hip arthroscopy were reported for a cohort of patients did not provide any details regarding the surgical procedures for patients included in the analysis.[2] Therefore, the descriptors for the surgical procedures included in Table 2 reviewing the specifics for the included studies in the review are not accurate for Spencer et al and can be easily misinterpreted as a consistent procedure for all patients. This is very important, as Spencer et al describe different rehabilitation programs for patients who undergo different surgical procedures.[2] The lack of details regarding which surgical procedures were performed on the patients included in the outcomes analysis, as well as the potential lack of consistency in the rehabilitation programs used for these patients, greatly limits our ability as readers to interpret the successfulness of the rehabilitation program described. While Cheatham et al allude to the difficulty in comparing studies that assessed a rehabilitation program in patients undergoing different surgical procedures in their Limitations section, this also could have been emphasized throughout the synthesis and discussion sections to provide the reader with accurate information from which to evaluate the findings. In addition, in my opinion, the paucity and lack of consistency between the included studies make understanding the rehabilitation outcomes much more challenging.

A total of 6 studies were included for analysis in the review. The authors state that the inclusion criteria were being

> peer reviewed, English-language publications, investigations that compared a postoperative hip arthroscopy rehabilitation program to usual or standard care, investigations that compared 2 different types of rehabilitation programs, and case reports and series that described a postoperative rehabilitation program.

All studies met the last inclusion criterion, in that all were case studies or series that described a rehabilitation program after arthroscopic treatment of the hip. Cheatham et al[1] then defined the postoperative rehabilitation program as "a structured rehabilitation program within the scope of a rehabilitation professional and included interventions such as manual therapy, therapeutic exercise, functional activity, sport-specific training, and modalities." While this definition was applicable to 4 of the 6 studies, neither Reiman et al[3] nor Boykin et al[4] described a structured

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rehabilitation program. Boykin et al did provide a reference to a program that was described in another study included in the review (Philippon et al[5]). However, that program was created for a professional football player who presented with persistent pain after conservative treatment for hip subluxation and femoral-head fracture and who underwent subsequent arthroscopic treatment for chondrolabral damage and FAI. On the other hand, the case study by Boykin et al described a professional soccer player with persistent pain after an adductor-tendon repair who underwent subsequent arthroscopic treatment for chondrolabral damage and FAI, along with a second adductor longus tendon repair. These 2 patients would and should have different restrictions postoperatively, and the vastly different requirements of their sport, combined with the additive tendon repair in the soccer player, should have resulted in significant alterations to the previously published protocol. These were not detailed in the Boykin et al article, and, thus, care should be taken in interpreting the findings from this article and applying them to an isolated hip-arthroscopy population.

The case study by Reiman et al[3] did not reference a rehabilitation program, nor did it provide specifics of the program used for their athlete. They did provide general, basic rehabilitation guidelines (ie, progressive strengthening, pain-free range of motion, progression to resisted exercises, proprioception and balance, and sport-specifics); however, these guidelines can be applied to any musculoskeletal injury at any joint. An important question would be, "Could a rehabilitation professional apply the rehabilitation program, as described, to a patient after hip arthroscopy for treatment of FAI and associated chondrolabral pathology? Is the program specific to the treatment of the condition of interest?" If the answer is yes, then it provides a structured rehabilitation program that clinicians can critically pursue. In the case of Reiman et al, it could be argued that it is not a structured rehabilitation program but, rather, general guidelines. As the objective of this review was to evaluate the available evidence regarding postoperative rehabilitation programs specific to hip arthroscopy, this study does not provide adequate information from which to draw clinical recommendations or conclusions. This brings us to a more important point in rehabilitation research. It is important for authors to provide enough detail that clinicians could easily incorporate the rehabilitation program. While Cheatham et al sought to report on all the available evidence, the lack of completeness of the published rehabilitation programs and possibly not-strict-enough inclusion guidelines lead to difficulties with synthesizing the data to provide accurate, valuable clinical recommendations.

Based on the available evidence, Cheatham et al[1] generally recommend a 4- to 5-phase rehabilitation program with a period of initial restriction in weight bearing and progression to return to sport at 3 to 6 months. Given the low quality of evidence supporting a specific rehabilitation program, this is an appropriate recommendation. However, I would further suggest that this recommendation be limited to specific athletes (football and soccer) who underwent arthroscopic treatment for FAI and chondrolabral damage. These are the only populations and specific surgical procedures for which a structured rehabilitation program has been described with a successful outcome. They may not be appropriate for other conditions treated with hip arthroscopy (eg, isolated labral lesions, dysplasia, and soft-tissue conditions) or other patient populations. Furthermore, extreme caution should be taken when applying the published rehabilitation programs to a specific patient, and the reader should heed the advice of Cheatham et al to "individualize the treatment according to the surgical procedure and surgeon recommendations."

In conclusion, I commend the authors for investigating an area of rehabilitation that needs continued development. The identification of rehabilitation evidence is paramount to ensuring that patients' outcomes can be maximized.

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