

The Hip Dial Test to Diagnose Symptomatic Hip Instability

Marc J. Philippon, MD, USA

Karen K. Briggs, MPH, USA

Peter Goljan, MD, USA

Lourenco P. Peixoto, MD, USA

Steadman Philippon Research Institute
Vail, CO, USA

Summary:

We found the hip dial test to be very specific for diagnosing symptomatic instability, especially in patients without global laxity.

Abstract:

Introduction:

Hip instability has recently become recognized as an important source of pain and disability in patients. Although once considered to be the result of high-impact trauma, the possible etiologies for an unstable hip have since broadened to include several atraumatic factors. Considering the increased frequency of diagnosis, the ability to accurately determine hip instability in a clinical setting has become important. The purpose of this study was to determine the sensitivity and specificity of the hip dial test in diagnosing hip instability.

Methods:

Preoperative data from 2006 to 2012 were prospectively collected from all patients undergoing hip arthroscopy during that time. Data included surgical findings as well as preoperative physical examination findings, in which the hip dial test was performed to assess for capsular laxity. The hip dial test is performed on a supine patient. The examiner manually rotates the affected lower limb internally, and then releases the limb allowing it to passively rotate externally. A positive hip dial test occurs when there is external rotation beyond 45° from vertical in the axial plane on the affected limb, and it lacks a definitive mechanical endpoint. Global laxity was diagnosed when 4 or more of the criteria described by Beighton were present. Arthroscopic findings of capsular laxity were considered the gold standard.

Results:

426 patients were included in the study. A positive dial test was associated with reports of instability ($p=0.001$). Among all patients in the study, the sensitivity of the test was 0.65 and the specificity was 0.84. When considering patients without diagnosed global laxity ($n=374$), the sensitivity of the dial test was 0.7 and the specificity was 0.9. Patients with a positive dial were 11 times more likely to report symptoms of instability [95%CI: 6.5 to 19.2]. Patients with positive dial test presented at surgery with a labral tear in 89% of cases.

Conclusion:

Based on the data from this particular patient group, we found the hip dial test to be very specific for diagnosing symptomatic instability, especially in patients without global laxity. However, not all patients with instability symptoms have positive dial tests, making a thorough history collection a necessary step in reaching the correct diagnosis.