

# Editorial Commentary: What Irks a Hip Arthroscopist? Intraoperative Anchor Failure



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**Abstract:** Intraoperative suture anchor failure is a seemingly unavoidable event during hip arthroscopy and it can happen to the best of us. To date, biomechanical cadaveric studies saturate hip anchor failure literature with only one known, published in vivo investigation. We now know that intraoperative anchor failure is an uncommon occurrence that does not significantly vary between basic population demographics. However, we have only been provided with foundational knowledge, and our community must continue to expand upon the basics.

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You know that feeling when everything is going smoothly—first suture anchor goes down nicely, second anchor, no problem; you’re cruising. Then it happens—third suture anchor goes down and as you proceed, inexplicably, it pulls out. The perfectionist within us is screaming because it is the seemingly little things that can irk us the most. Fortunately, from our experiences, anchor pullout does not happen often and in this scenario, we readily see it and correct it. We know that anchor pullout occurs, but we do not know the details of who, where, when, why, or how often. Biomechanical cadaveric studies have inundated anchor pullout literature without in vivo studies providing clinical correlation until now. In their study, “Acetabular All-Suture Anchor for Labral Repair: Incidence of Intraoperative Failure due to Pullout,” Byrd, Jones, Loring, and Sparks have astutely completed the first in vivo clinical anchor pullout investigation and

provided us with a framework to understand intraoperative anchor failure.<sup>1</sup> Over an 18-month period, including 434 cases, a 1.6% incidence of pullout was observed with no significant differences in patient demographics noted.<sup>1</sup>

Anchor insertion, as well as ensuring that they are secured properly, is no trivial task. This seemingly routine and innocuous aspect of hip arthroscopy has potentially severe ramifications as a result of the complex nature of the acetabulum; the anterior rim can be especially challenging for anchor placement because of the small margin for error. Because complications such as articular surface perforation and even psoas tunnel violation have been reported,<sup>2,3</sup> anchor constructs, instrumentation, as well as intraoperative placement have been scrutinized. Although Dr. Byrd and colleagues did not directly address preventing these specific complications, I applaud the team for steering away from what is known and comfortable and trialing the small-diameter (1.8-mm), all-suture construct in vivo. The “quite acceptable,” as they modestly refer to it, overall failure rate of 1.6% provides clinical support to prior cadaveric studies in that smaller, hip-specific anchors are optimal for preventing intraoperative failure.<sup>4</sup> Personally, I use 1.4-mm PEEK (polyether ether ketone) suture anchors and although I cannot scientifically report a “quite acceptable” incidence of intraoperative failure, I can confidently say that there has been minimal kicking and screaming from my inner-perfectionist during anchor insertion with respect to failure.

As this is the first clinical correlation for intraoperative failure, Dr. Byrd has provided an excellent foundation

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and launching point for future, in vivo anchor failure research. According to this article, it is reassuring to know that pullout occurs equally as often across demographics, with no increased incidence correlated with operator-experience. That being said, there are questions left unanswered and multiple factors whose role in intraoperative anchor failure must be teased out as more rigorous evaluation of patient-, surgeon-, and anchor-related factors are necessary. An obvious inquiry is if Dr. Byrd's incidence of failure is truly representative of the overall population of hip arthroscopists as he is an expert among experts. There was also no mention between revision versus index procedures, which may or may not affect pullout, though it is not a stretch to believe prior violation of the acetabulum affects its integrity at some level. Finally, does location, type of labral tear, suture pattern, predisposing factors such as dysplasia, and even possibly vitamin D deficiency increase the incidence of intraoperative failure? Is it possible that cases of post-operative anchor failure are influenced by the same

factors? Hopefully these directions will be explored in future in vivo investigations of intraoperative suture anchor failure. With this index study, Dr. Byrd and his associates have helped close the knowledge gap within our small community and I am very much appreciative.

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