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Letter to the Editor

The modern-day ACL surgeon's armamentarium should include multiple surgical approaches including primary repair, augmentation, and reconstruction: A letter to the Editor

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We would like to thank the authors for their highly valuable publication [1] and commend them for conducting the largest ACL survey performed to date, including over 2000 ISAKOS sport surgeons. The study illuminates current trends in ACL reconstruction (ACLR) surgery and highlights the variation in techniques used depending on a surgeon's location and expertise [1].

Hereby, we would like to provide our critique on both the chosen title and methods used. We strongly believe that the "benchmark" in today's ACL surgery is not solely represented by ACLR, but rather by a patient-individualized decision process that considers the complete, modern-day ACL surgery toolkit (e.g. primary repair, augmentation, and reconstruction).

The authors of this letter are aware of the ongoing reluctance toward ACL primary repair (ACLPR) within today's orthopedic sports medicine and trauma community. ACLPR had been abandoned after historical open ACL repair techniques were reported to have high failure and complication rates at mid-term follow-up [2,3,4]. Over the past decade, there has been a resurgence of interest in modern-day ACL primary repair as new arthroscopic techniques, rehabilitation protocols [5,6], and an appropriate patient selection algorithm based on tear type and tissue quality have been adopted [7,8]. With this in mind, historic outcomes using obsolete techniques and rehabilitation protocols [2,3,4] should not be confused with results using state-of-the-art techniques on an evidence-based selected patient cohort, as these techniques show acceptable and comparable failure rates at early and mid-term follow-up as compared to ACLR [9,10,7,11,12,13–18].

Even if recent randomized-controlled trials reported good short- and mid-term results of ACL primary repair compared to ACLR, it has to be highlighted that until now, high-quality long-term evidence for ACL primary repair is still limited given its recent resurgence [19,5,11,12,20]. However, non-negatable functional outcome parameters considering the success of a surgical procedure must be considered: rehabilitation following primary ACL primary repair has been shown to be faster and less painful [13], given the repair's minimally invasive nature and no graft harvesting. Furthermore, it provides greater and earlier return of full range of motion (ROM) [21,13], and at short and mid-term

follow-up, excellent patient-reported outcomes (PROMs) have been reported [19,11,12,20,13,14,16,17,18].

The authors presented several clinical scenarios with varied age and sports participation. We suggest that tear location and timing of injury are also critically important. With these factors considered, a preservation-first approach [8] might be indicated. The survey, as presented, queried surgeons about graft choices as if ACLR would be the only valid treatment option. Again, we strongly believe that this is an antiquated approach.

Considering the positive functional outcomes [9,19,22,11,12,20,21,13–18] and failure rates [9,19,10,7,11,12,20,13–18], it must be emphasized that selective arthroscopic ACL primary repair is a reasonable treatment approach for ACL tears in appropriately selected patients [8]. Lastly, considering ACL re-rupture, few bridges are burned performing primary ACL primary repair; thus, revision surgery is less complicated than after failed reconstruction [23].

We want to thank the authors again for their valuable contribution and want to emphasize that this letter should not be perceived as an argument regarding "ACL primary repair vs. reconstruction". Based on the current literature and the authors' collective professional experience, we opine that the modern-day ACL surgeon's toolbox is not limited to ACLR alone, but equipped with a multifaceted armamentarium of procedures. We strongly recommend that future benchmark surveys include a more complete representation of the surgical (primary repair, augmentation, and reconstruction) and non-surgical options to treat the ACL-injured patient.

Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

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