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## Editorial Commentary: It Takes Two to Tango: The Shared Decision of Return to Sport After Meniscal Transplantation



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**Abstract:** Despite its overall good results, meniscal allograft transplantation is considered a salvage procedure, and abstention from sport practice is considered a valid solution to preserve the transplanted meniscus as long as possible. However, many patients want to return to sport, and this is often beneficial for them. Therefore, we should know how meniscal allograft transplantation performs in terms of return to sport to better counsel our patients. It is thus of primary importance to discuss general and sport-related expectations with each patient, whom should be informed of the potential short- and long-term risks of strenuous or light sport activities. In particular, the high risk of reoperation, the long recovery time, and the potentially deleterious effect of sporting activity on graft survival should be quite clear to both surgeons and patients because, when it comes to return-to-sport decisions, "It takes two to tango"!

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Return to sport after meniscal surgery, as after many other sport-related injuries, represents a peculiar vicious circle. As surgeons, we must treat a variety of sport-related conditions with the aim of making the joints work without pain and with normal (or quasi-normal) biomechanics. As our results improve, the postoperative demand requested by our patents also increases. Thus, the apex of the functional requests that patients put on their joint, and the ultimate goal for most, is represented by the return to sporting activity. But we all know that sporting activity is also the main cause of musculoskeletal injuries; thus, it seems that all our efforts are dedicated to maximizing the chance that our patients return to the source of risk, instead of keeping them safe from what injured them and posed a threat to their health.

This is particularly true for meniscal allograft transplantation (MAT). In fact, despite its overall good

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results, MAT is considered a salvage procedure, and abstention from sport practice is considered a valid solution to preserve the transplanted meniscus as long as possible, maintaining the knee's health. It thus seems wise to keep the brand-new car inside the garage to avoid damage and scratches.

Therefore, why measure the performance of MAT in terms of return to sport as Cvetanovich, Christian, Garcia, Liu, Redondo, Yanke, and Cole<sup>2</sup> did in the study "Return to Sport and Patient Satisfaction After Meniscus Allograft Transplantation"? The answer is simple: Patients want to return to sport, and this is often beneficial for them. Therefore, we should know how MAT performs in this regard to better counsel our patients and manage their expectations. The study of Cvetanovich et al., which analyzes 87 physically active young patients (average age, 29 years) at an average follow-up of nearly 3.5 years, helps us under many aspects. First, they further confirmed the nearly 75% rate of return to sport reported in other series,<sup>3</sup> which was achieved in the current study after an average of 12 months and to a similar extent in complex patients with combined procedures. Of note, nearly 50% of patients returned to the preoperative level and 62% were satisfied with their ability to participate in sports. Second, Cvetanovich et al. deeply investigated an aspect that has been overlooked in many studies assessing the

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return-to-sport outcome, namely the reason for abandoning sports or decreasing the level of participation. A fresh and interesting picture emerges from their data: The main motivation was in fact independent of the knee symptoms and status. In fact, 73.6% of patients reduced activity to prevent further joint damage, and more than one-third did so because of surgeon recommendation. It now seems clear that the decision to return to sport is a shared decision between the surgeon and the patient and, in most cases, the main actor—the knee—can be put in a corner!

It is thus of primary importance to discuss general and sport-related expectations with each patient, whom should be informed of the potential short- and long-term risks of strenuous or light sporting activities. In fact, the good results achieved in terms of pain reduction and functional improvement might encourage young patients to resume preinjury activity, which should be performed with extreme caution . . . but not totally forbidden! A higher degree of satisfaction and higher patient-reported outcome measures have in fact been reported in patients who were able to return to sport practice.<sup>4</sup> Thus, participation in low-impact activities such as swimming, cycling, golf, and yoga should be encouraged to maintain knee and overall wellness. Moreover, these are, in fact, the principal physical activities performed by the patients in the study of Cvetanovich et al., including patients with a higher rate of return to the preoperative level of sport.

Regarding the importance of sporting activity—even at low and recreational levels-and how it can influence people's quality of life, we learned a great lesson during the COVID-19 (Coronavirus Disease 2019) lockdown in Italy, where a great part of the population of any age fought for the right to perform sporting activity and to jog in the open air without being fined. In a sanitarily and economically critical period such as the COVID-19 pandemic, it was surprising to us that people were concerned about the impossibility of performing physical activity and were suffering either physically or mentally from its denial. Thus, considering that one of the main reasons for undergoing MAT, as reported in the study by Cvetanovich et al,<sup>2</sup> is to have a chance to continue to play sports and remain active, all our efforts should be spent trying to meet patients' expectations and improve their quality of live, even with a complex and "experimental" procedure such as MAT.

Finally, a peculiar situation is the management of professional athletes requiring MAT and those performing strenuous activities.<sup>5,6</sup> In the series by Cvetanovich et al.,<sup>2</sup> only a limited number of patients

returned to play football, soccer, baseball, and volleyball or were able to compete at a professional, collegiate, or competitive level. These results mirror the 2015 recommendations from the International Meniscus Reconstruction Experts Forum (IMREF)<sup>7</sup>: "Thus far, MAT in athletes has been recommended with caution because of concerns for high failure rates and long recovery times." What clearly emerges from the data of Cvetanovich et al. is the high price that athletes could pay after MAT, that is, a nearly 30% risk of reoperation and an average of 12 months away from competition. Therefore, a thorough consultation with athletes, managers, and teams is needed, whether deciding to opt for MAT or discussing the appropriate precautions for those patients who desire to return to sport for strong personal or even economic reasons. In conclusion, the eminent work by Cvetanovich et al. adds another heavy brick to the growing wall of MAT knowledge, helping us-as clinicians-to better deal with patients' expectations and to remind us that, when it comes to return-to-sport decisions, "It takes two to tango"!

## References

- 1. Novaretti JV, Patel NK, Lian J, et al. Long-term survival analysis and outcomes of meniscal allograft transplantation with minimum 10-year follow-up: A systematic review. *Arthroscopy* 2019;35:659-667.
- Cvetanovich GL, Christian DR, Garcia GH, et al. Return to sport and patient satisfaction after meniscus allograft transplantation. Arthroscopy 2020;36:2456-2463.
- 3. Grassi A, Bailey JR, Filardo G, Samuelsson K, Zaffagnini S, Amendola A. Return to sport activity after meniscal allograft transplantation: At what level and at what cost? A systematic review and meta-analysis. *Sports Health* 2019;11: 123-133.
- Zaffagnini S, Grassi A, Marcheggiani Muccioli GM, et al. Is sport activity possible after arthroscopic meniscal allograft transplantation? Midterm results in active patients. *Am J Sports Med* 2016;44:625-632.
- Alentorn-Geli E, Vázquez RS, Díaz PA, Cuscó X, Cugat R. Arthroscopic meniscal transplants in soccer players: Outcomes at 2- to 5-year follow-up. *Clin J Sport Med* 2010;20: 340-343.
- **6.** Marcacci M, Marcheggiani Muccioli GM, Grassi A, et al. Arthroscopic meniscus allograft transplantation in male professional soccer players: A 36-month follow-up study. *Am J Sports Med* 2014;42:382-388.
- Getgood A, LaPrade RF, Verdonk P, et al. International Meniscus Reconstruction Experts Forum (IMREF) 2015 consensus statement on the practice of meniscal allograft transplantation. *Am J Sports Med* 2017;45:1195-1205.