

# Editorial Commentary: Return to Sport Should Not Be Your Goal Following High Tibial Osteotomy With Concomitant Medial Meniscal Allograft Transplantation



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**Abstract:** Meniscal allograft transplantation has been done for 3 decades as a salvage procedure for patients with painful compartments following total or near-total meniscectomy. In malaligned joints, periarticular osteotomies often are performed in conjunction with the transplantation. The goal has been to reduce pain and improve function. Early series showed that re-tear of transplanted menisci was common. Because many recipients of meniscal transplantations are young, the goal has been to reduce pain and restore function, and high-demand work or sporting activities have been discouraged.

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Many early studies on allograft meniscal transplantation demonstrated frequent tears of the graft, necessitating additional meniscal resection.<sup>1,2</sup> Animal data had demonstrated that even cryopreserved menisci did not maintain the donor cells but were repopulated with host cells within the first few months.<sup>3</sup> In our midterm study published in 2001, we analyzed the meniscal tissue from partial meniscectomies performed in our patients.<sup>2</sup> Analysis of the resected meniscal tissue, when compared with normal menisci and torn native menisci, showed the transplanted menisci had been populated with fewer cells, which also demonstrated reduced cytokine production.

Meniscal allograft transplantation remains the best alternative for treatment of compartmental pain and decreased function from a functionally-absent meniscus.<sup>4</sup> Through the years, concomitant procedures including unloading osteotomies (high tibial or distal femoral), articular cartilage implantations, and ligament reconstructions have become common. All of

these are designed for joint preservation and to delay the potential need for total or partial knee arthroplasty.

The article "Return To Work And Sport Following High Tibial Osteotomy With Concomitant Medial Meniscal Allograft Transplantation" by Liu, Christian, Agarwalla, Garcia, Redondo, Yanke, and Cole presents the senior author's (Cole) midterm data on a series of patients who underwent both medial meniscal transplantation and concomitant high tibial osteotomy.<sup>5</sup> It is not clear what recommendations the patients were given as to return to sport. Only 73% of their patients did return to sports, and of that more than one-half were at a decreased intensity. The most common reason these patients changed their sports participation was to prevent further damage to the knee, one that I would strongly encourage.

A recent systematic review by Novaretti et al.<sup>6</sup> of those outcome papers with a minimum of 10-year follow-up demonstrated that the population for meniscal transplantation remains young with a mean age of 33 years. Reasonable long-term results were reported in the systematic review, with 74% of allografts remaining functional after 10 years and 60% remaining functional after 15 years. With some of these patients being in their teens, a 40% failure rate by the age of 35 does not bode well for successful knee function for the majority of their adult life.

Spaulding and Getgood,<sup>7</sup> in a recent editorial in *Surgery, Sports Traumatology and Arthroscopy*, noted that meniscal allograft transplantation is a bridge procedure. Although

The author reports no conflicts of interest in the authorship and publication of this article. Full ICMJE author disclosure forms are available for this article online, as [supplementary material](#).

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0749-8063/19914/\$36.00

<https://doi.org/10.1016/j.arthro.2019.07.017>

the meniscus transplantation may be chondro-protective, it is really best thought of as a means to preserve function for activities of daily living and work.<sup>8</sup> Spaulding and Getgood note "...light sport should be a bonus, with an overall ambition to conserve knee function."<sup>7</sup>

Cole et al. should be congratulated on presenting important data to show that patients with meniscal allograft transplantation and high tibial osteotomy are by and large able to return to some degree of sporting activity.<sup>5</sup> These patients demonstrated a change in their level of sports participation for the goal of preventing further damage to their knees. I would argue that it is the role of the orthopedic surgeon who is transplanting menisci into young patients to stress that this procedure is a bridge to allow them to have a reasonable period of time with good function, limited pain, and an ability to work. High-impact activities, including cutting and twisting sports, should be discouraged, particularly in the younger population, who may assume, as their symptoms resolve, that they can treat their surgically-repaired knee as normal.

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