

Nicola's Foundation Young Researcher Award

**Twenty-Six Years of Meniscal Allograft Transplantation (MAT): Is It Still Experimental?
Meta-Analysis of 44 Trials**

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Abstract:

Introduction:

Since the first MAT procedure in 1984, thousands of patients with post-menisectomy symptoms have been treated through allograft replacement. Nevertheless, MAT is still considered experimental surgery. AIM OF THE WORK: Collection, presentation and meta-analysis of published trials presenting outcomes of meniscal transplantation to establish safety and reliability of the MAT procedure.

Materials and Methods:

A pubmed search was conducted using different combinations of keywords with reviewing of the abstracts excluding all but English-language trials that presented more than 6 months clinical, radiological and/or histological outcome in human subjects. We analyzed 44 trials presenting 1136 grafts in 1068 patients.

Results:

The literature presented the outcomes of 678 medial and 458 lateral grafts in 613 male, 265 female and 190 non-defined patients with an average age of 34.8 years. Sixty-four percent of MATs were parts of combined procedures while only 36% were isolated. The outcomes were presented through 12 scoring systems, 4 radiographic modalities, 2nd look arthroscopy plus histological analysis. Whatever the follow-up period and the scoring system used, patients continuously showed clinical improvement. Failure rate averaged 10.6% and a total of 128 (21.3%) non-major complications, mainly observed in combined procedures, was reported.

Conclusion:

Continuous satisfactory outcomes with restoration of working ability in this active patients group were observed in all studies. The complication and failure rate are considered acceptable by all authors. Salvage procedures included osteotomy and arthroplasty without secondary difficulties. MAT can be considered safe and reliable for the treatment of refractory post-menisectomy symptoms in selected patients.