

The meniscus: past, present and future

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Nothing has changed so much in knee treatment and surgery as the meniscal treatment algorithms which have shifted from simple resection to preservation of as much meniscal tissue as possible.

After Thomas Annandale [1] had set the stage in 1883, the interest in repairing the torn meniscus cooled down to flare up again in the East with new arthroscopic approaches and techniques to treat and to save this piece of tissue.

Smillie [9] in 1975 advocated resection. Total meniscectomy appeared correct at the time, but new knowledge has emerged.

Open meniscus repair was initiated by DeHaven [3] in the US and supported by Beaufils and Cassard [2].

In Europe, the approach shifted towards arthroscopic repair, a significant option.

Standard indications have now been accepted and the rate of satisfactory results has increased with better techniques and suture material.

Kohn et al. and Milachowski et al. [5, 6] introduced meniscal replacement as part of the treatment of the multiply injured knee joint, acknowledging the importance of the meniscus to stabilisation and cartilage protection.

Others developed it further, retaining the indications with good results remaining as long as 26 years after meniscal transplantation [10, 11].

This focused approach to a limited yet significant number of young patients with a functional handicap, is still listed as “experimental” in a number of developed countries for no scientific or clinical reason.

Because Fairbank [4] and Neyret et al. [7] have shown meniscectomy to lead to degenerative arthritis even in a stable (or stabilized) knee, this semilunar piece of collagen tissue needs to be replaced when resected after trauma.

Selected patients with chronic pain after an earlier partial meniscectomy should benefit from partial replacement of the meniscus using more recently developed tissues such as collagen implants [8, 13] and partial polyurethane resorbable devices [12].

More alternatives, obviously, will emerge in the future.

These meniscal replacements are likely to be resorbed over time and be ingrown by host cells mimicking native meniscal tissue.

Cell biology and in-depth knowledge of increasing meniscocyte metabolism will in the very near future undoubtedly restore the meniscus back to its unspoiled status.

This knowledge and clinical experience will increasingly focus on limited indications, decreasing non-optimal use and, as such, benefit healthcare and patients as well.

Such is the Hippocrates oath as physicians and orthopaedic surgeons.

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