Should Meniscus Tear Repair Within 3 Weeks After Trauma Be Preferable? Results Of A Single Surgeon Series Of 95 Repairs.

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A lost part of the meniscus is, in time, a lost knee\(^1\), followed by a lost normal life!

So...“dare to repair”\(^2\)
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Introduction: Tendon repair and Anterior Cruciate Ligament (ACL) repair surgery within 3 weeks of injury has yielded better results than later procedures.

This study hypothesized that arthroscopic meniscus repair surgery performed within 21 days would yield better results than historical procedures. In this group, failure rates vary between 10- and 27%³

Procedure: Standard arthroscopic methods were applied to repair within 3 weeks after trauma, the posterior third using Meniscus Arrows® (Conmed-Linvatec, Largo, FL, USA), and the middle third by inserting PDS 2.0 stitches through Meniscus Mender® outside-in devices (Smith & Nephew, London, UK).
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The procedure.
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The procedure, an example of the final result

2 Arrows left side, 3 outside-in stitches at the right
Results:
This prospective series included 91 patients, 57 men and 34 women, who underwent 95 meniscus tear repairs from 2002 to 2013.

Mean patient age was 29 years (range, 12–66 years).

The right meniscus was repaired in 43 patients and the left meniscus in 48, with four knees requiring repair of both menisci.

All ruptures occurred in the red-red and red-white zones. Sports were the predominant cause (67/91), most while playing soccer (36/67).

Follow-up ranged between 2- and 12 years (mean of 5 years).
Results:
All repairs were performed arthroscopically within 21 days (range: 1–21 days; mean: 11 days) after the trauma.

Of the 95 repaired menisci, 92 (96.7%) healed without complications and did not require further surgery during the follow-up period.

One (1.1%) asymptomatic patient experienced a new accident 11 months after the initial surgery, while again playing unrestricted soccer. Arthroscopic examination found that the initial tear was completely inert and unhealed, leading to resection of this part of the meniscus, to prevent further tearing and still preserving most of the meniscus.
Results:

In another patient, asymptomatic, repair was only partially successful, as revealed by arthroscopic examination after a second trauma, 31 months post-operatively, during ACL reconstruction.

In a 3rd patient also asymptomatic, repair was only partially successful, as well, revealed by arthroscopic examination during ACL reconstruction 12 months after the first surgery.

In both, only the non-healed part of the meniscus was removed, preventing further rupture and still preserving most of the meniscus.
Results:

Four other asymptomatic patients (4.2%) experienced re-rupture of their previously mended and healed menisci, as shown by a fresh hematoma along the rupture site, due to a sufficient trauma while again participating, fully, in their contact sport.

One underwent minimal resection due to local meniscus deformation, and three underwent a second repair of the previously healed tear.

None of these four patients experienced any adverse events during the follow-up period, nor any operative therapy was needed.
Discussion:

The limitation of this study is the lack of a control group.

However, comparison can be made with the numerous data out of the international literature.

Failure rates are found between $10 - 27\%^3$. In our series primarily failure of $3.3\%$ was noted.

Even repeated repair, if viable tear edges are present, yields good results as is stated in recent literature$^4$ and noted in our series.
Conclusion 1:
The overall success rate of meniscus repair within 3 weeks of trauma was 96.7%, (one full failure and 2 partial failures (3.3%).

This is higher than previously published results, in which the failure rate is noted, at least, between 10- and 27\%^{3}, i.e. success rates between 73\% and 90\%. 
Conclusion 2:

Early repair of meniscus tears within 3 weeks after trauma is as beneficial as the, generally accepted, early tendon and ACL repair procedures.

Let’s think biological!
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References:


2 Charles Brown, ESSKA congress, 2016, Barcelona


