



# Save the meniscus again!

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Meniscectomy is still one of the most popular and frequent orthopaedic procedures in the world. However, the long-term results, even following arthroscopic “so-called partial” meniscectomy, are not so good [10] and the concept of meniscal preservation has, therefore, progressed over the years [13]. However, the meniscectomy rate remains too high, even though robust scientific publications indicate the advantages of meniscal repair or non-removal procedures in traumatic tears [4, 12]. It is worrying to note the considerable gap between these publications and daily practice. Moreover, the increase in meniscus repairs among meniscectomies is slow all over the world [3, 5].

## Fight against false ideas

There are still many artificial and incorrect reasons for orthopaedic surgeons to perform meniscectomies rather than meniscal repairs. All of them have to be discussed and deleted from our subconscious minds.

1. “I think that meniscectomy is a safe, quick and easy procedure for me; so it will be the same for the patient”. Wrong! There are some publications comparing meniscectomy and meniscal repair, especially on the lateral side. The time of return to sports is faster after lateral meniscectomy and the patient sometimes never recovers his/her preinjury level.
2. “The meniscal repair procedure requires a long learning curve and is only dedicated to a few simple lesions located in the vascular area of the meniscus. The failure rate is high”. Wrong! All the literature reviews of meniscal repair bring together recent papers with modern techniques and old papers with devices and techniques that

are no longer in use. They should be carefully separated and analysed. So the overall rate of failure and subsequent meniscectomy is around 20%. When looking at the recent literature using modern devices, techniques and selected indications, this rate is instead close to 7–10% [8]. The results have to be compared with those of arthroscopic meniscectomy for a similar lesion, that is to say, most of the time, vertical longitudinal traumatic lesions. The problem is that reparable (and repaired) lesions are not comparable to irreparable (and resected) lesions because the indications are different. The location (red–red vs white–white zone), the quality of the meniscal tissue, the aetiology (traumatic vs degenerative) are different. Just imagine a study such as “prospective randomised evaluation of the short- and long-term benefits of meniscus repair in meniscectomies in young patients with reparable lesions”. Impossible to perform!!

In any case, the respective indications for meniscectomy and repair do not conflict but are instead complementary.

3. Patient and society: “I saw professional athletes on television and they returned to their preinjury level quickly after a meniscectomy, so please, doctor, do the same for me, even if I am not a professional athlete and even if my lesion is reparable”. Wrong! There are specific indications for surgery in the professional athlete that should not be extended to the global population.

## Reasonably extend the indications

Meniscus repair techniques have been widely developed and many different lesions can now be repaired with good mid- to long-term results [8].

First, by improving the techniques not only in terms of biomechanics (strength) but also in terms of biology: vascular access channels [15], marrow stimulation [2], synovial flaps, fibrin clot [9] and PRP [14] have been proposed as

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additional tools for treating complex lesions. Other biological advances are currently being evaluated.

Second, and this is probably the critical point, using the correct indications.

In stable knees, the best indication for repair is a vertical traumatic tear located in the red–red zone, with “minimal” damage to the meniscal tissue; this is, in fact, a very rare entity!

Horizontal cleavage in the peripheral zone, in young athletes, can be also considered for repair [6]. These particular lesions correspond to overuse lesions. They are easily treated using an open or arthroscopic technique [7] with good mid- to long-term results [11].

The risk of failure in repaired vertical lesions located in the white–white zone or in extensive complex degenerative horizontal tears is high. Except in very young patients, these lesions can be treated by meniscectomy or left alone, depending on the symptomatology.

The question is, however, how we should treat vertical lesions associated with moderate meniscal damage and some horizontal limited cleavages, oblique tears, root lesions with some retractions and large meniscal flaps?

In these questionable indications, meniscectomy is naturally the alternative. Young age (related to meniscal damage), the degree of coronal deformity, sports activity and a lateral meniscus are the main factors indicating meniscal repair rather than meniscectomy in these complex lesions. Again, repair and meniscectomy are not two concurrent techniques. They are complementary and can even be proposed in conjunction in the same knee, enabling the removal of the unstable part of the meniscus and the repair of the peripheral rim, which is so important biomechanically.

In some cases, we are confronted by complex lesions in the meniscus occurring in young patients. In these cases, the concept of meniscal preservation should be pushed. The meniscus is not fully reparable, but it is possible to repair the majority of the lesions, while removing only the most damaged tissue. Again, this is particularly true in lateral meniscal lesions, stable or stabilised knees and young patients.

This concept: salvaging the meniscus in complex tears (with partial meniscectomy and meniscal repair) was evaluated in our study at a long-term follow-up [1]. The results were encouraging, with a low rate of complications and a good protective effect in the remaining meniscal tissue from degenerative changes.

In conclusion, the concept of meniscal repair and preservation can be extended to some specific indications. Not all meniscal lesions can be repaired. However, all reparable meniscal lesions must be repaired. If it is not possible fully to repair some complex lesions in young patients, a partial

meniscectomy can be associated with the repair. Please, save the meniscus again and again!

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