

Surgical Treatment of Femoroacetabular Impingement of the Hip

The title of this article will catch the eye of any surgeon because it includes the phrase: Systematic Review. The statistical significance of any conclusions from a systematic review is worth noting. That's because such a review combines the results of many smaller studies to give an overall view of the results of treatment like surgery for femoroacetabular impingement (FAI) of the hip.

Impingement refers to some portion of the soft tissue around the hip socket getting pinched or compressed. Femoroacetabular tells us the impingement is occurring where the femur (thigh bone) meets the acetabulum (hip socket). There are several different types of impingement. They differ slightly depending on what gets pinched and where the impingement occurs.

Most studies on this condition are case studies. That's because no one surgeon sees 100s or 1000s of patients with this problem. Case studies are good because surgeons have to start somewhere when trying to see the effects of treatment.

The problem with published case studies is that this is considered a low levels of evidence. A surgeon wouldn't want to treat any patient with methods considered "successful" based on low level of evidence.

Conducting a systematic review like this one allowed the authors to examine the data on 970 different patients (collected from 23 reports of case studies). Now surgeons can see what the latest findings are and evaluate their own practices based on what is statistically significant.

This systematic review was set up to find information that might answer the following four questions:

- Does surgical treatment for femoroacetabular impingement (FAI) work? In other words,
- does it decrease patients' hip pain?
- Are there certain people with FAI who should not have surgery?
- When the labrum (rim of cartilage around the hip socket) is getting pinched, should the surgeon shave it off or try and repair it? Reattaching the torn labrum is called labral refixation.
- Can surgery for FAI slow down or even stop the progression of hip osteoarthritis that usually occurs with this condition?

Results of any treatment can be measured in different ways. Severity of symptoms, change in function (better or worse), hip motion, and patient satisfaction were the most commonly reported in the case studies included in this review.

Different groups used different tests to assess these measures including the Western Ontario and McMaster Osteoarthritic Index (WOMAC), the Harris Hip Score (HHS), the Visual Analog Scale (VAS), the SF-12 Health Survey, and the nonarthritic hip score (NAHS).

For comparison sake, it would be better if everyone always used the same test measures when studying this condition. Without that, a systematic review is the next best option for combining results and testing the significance level.

Here's what they found. First, surgical treatment for FAI did improve symptoms and function. Improved motion, decreased pain, and better function were reported. But patient satisfaction levels were not high across the board.

For those patients whose pain didn't improve and especially those patients who ended up having a hip replacement, reported patient satisfaction was low. In some studies, the rate of dissatisfaction and/or conversion to hip replacement

was as high as 30 per cent.

Treatment failure in these studies wasn't always because of the severity of cartilage damage. Just as many patients with severe damage had good outcomes as those who had a failed treatment. The reasons for those differences remain unknown and will require further study.

For now, we know from this systematic review that in answer to the four questions, 1) surgery for femoroacetabular impingement (open or arthroscopic) has good results, 2) labral refixation has better results than labral resection (removal), 3) severe damage to the joint surface and surrounding cartilage (these are considered advanced arthritic changes) is a risk factor for poorer outcomes, and 4) the treatment effect on future arthritic changes remains unknown for now.

The authors offer some additional thoughts from their analysis of the many case studies included in this review. First, the optimal treatment of femoroacetabular impingement (FAI) remains unknown. Some patients may benefit more than others from surgical intervention. It should be the goal of future research to identify who can benefit the most from each type of treatment (conservative or nonoperative versus surgical).

Identifying patients with severe or advanced arthritis before surgery to repair FAI should be a priority. Right now, even with X-rays and MRIs, it isn't always possible for the surgeon to know the full extent of the damage. Sometimes, it isn't until getting inside the joint that the surgeon can see what's really going on.

And finally, no one has done a study directly comparing open and arthroscopic methods for surgical repair of femoroacetabular impingement (FAI). This is an important gap in the available knowledge about treatment of this condition. Future studies with high levels of evidence are needed to guide surgeons in choosing the most optimal treatment approach for individual patients with FAI.

Reference: Vincent Y. Ng, MD, et al. Efficacy of Surgery for Femoroacetabular Impingement. A Systematic Review. In *The American Journal of Sports Medicine*. November 2010. Vol. 38. No. 11. Pp. 2337-2345.