

## **Short Question:**

**Specific Question:** In adults with degenerative meniscal tears in the knee, is physiotherapy as clinical and cost effective as surgery?

### **Clinical bottom line**

There is good quality evidence to suggest there is little benefit of arthroscopic surgery for degenerative meniscal tears over a physiotherapy programme for older adults.

Good quality evidence suggests there is no difference in the pain, functional outcome or satisfaction between those having surgery compared with a physiotherapy programme including strengthening exercises.

### **Why is this important?**

Patients with degenerate meniscal tears are often sent for surgery. This is an expensive procedure with all the associate risks of receiving a general anaesthetic. It is important for clinicians to be aware of other potential cost effective and clinical effective means of treatment i.e. physiotherapy

### **Inclusion Criteria**

#### **Adults**

#### **Search – 2004- 2014**

	Description	Search terms
<b>Population and Setting</b>	Adults	Primary and secondary care
<b>Intervention or Exposure (ie what is being tested)</b>	Physiotherapy,	Physical therapy, rehabilitation, exercise, weight bearing exercises, closed chain exercises
<b>Comparison, if any</b>	Surgery	Arthroscopic excision of degenerate meniscal tear
<b>Outcomes of interest</b>	<b>Reduction in pain, cost effectiveness</b>	
<b>Types of studies</b>	Systematic reviews, rcts	

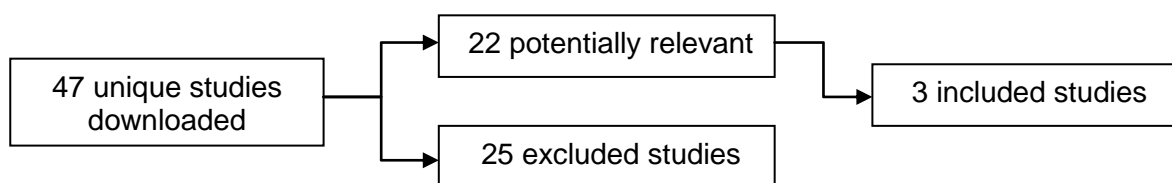
<b>Databases Searched</b>	<b>Date of last search</b>	<b>No. downloaded</b>
Clinical Knowledge Summaries		

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PEDro		
BMJ Updates		
Clinical Evidence		
TRIP Database	April 2014	3
NICE		
HTA		
Bandolier		
The Cochrane Library	April 2014	10
Medline		
Cinahl		
Embase	April 2014	20
PsycInfo		
Professional websites		
Joanna Briggs Institute	April 2014	1
Web of science		7
Sports discuss	April 2014	3
Pub med	April 2014	3

## Results



First Author, year and type of study	Population and setting	Intervention or exposure tested	Study results	Assessment of quality and comments
Katz et al 2013 Multicentre RCT	351 symptomatic patients, 45 years or older with meniscal tear and evidence of mild to moderate OA on MRI or Xray  Based in 7 US tertiary referral centres	Surgery and post op rehab or standard physio regime for 6 weeks  Cross over possible at discretion of surgeon or patients  Primary outcomes: WOMAC physical functioning at 6 months	Intention to treat analysis: no difference in functional improvement in two group at 6 months (Primary outcome at 6 months)  30% of patients who were assigned to physio underwent surgery within 6 months.  Drop outs at 6 months, 13 in surgery group & 8 in PT group. At 12 months, 18 dropped out surgery group and 13 in physio group.	Tertiary centre in US.  Patients randomised to physio alone told that they would be able to cross over to surgery if required  Randomisation via a secure programme. Groups similar at baseline. Standard treatment protocols for both groups

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		(also taken at 3 and 12 months  Included KOOS, SF36		Lack of blinding may lead to bias
Yim et al 2013 RCT?	102 patients with knee pain and degenerative horizontal tear of post horn of medial meniscus ( on MRI)	Arthroscopic meniscectomy (by 1 surgeon)  Non operative treatment with strengthening exercises. Physio was 60 minutes three times a week for 3 weeks, then home exs programme for 8 weeks  Outcomes: Lysholm knee scoring scale VAS for pain Tegner activity scale Degress of relief from pain Kellgren Lawrence classification Subjective satisfaction	Arthroscopy did not provide better functional outcomes than non operative (physio)  No differences between group I terms of pain, improved function or satisfaction in patients at 2 year follow up  Symptom improvement continued for longer than the surgery group ie beyond 6 months  Drop outs at 2 years: 4 in surgery group 2 in non op group	Study undertaken in Korea.  Clear inclusion and exclusion. Randomisation by closed envelope. Groups similar at baseline  Intensive physio  Power calculation only based on 30 previous cases  Needed 54 in each group for power calculation (at 2 years 50 in surgery and 52 in PT)
Herrlin 2013 Prospective RCT	96 middle aged (45-64), MRI diagnosed degenerative medial meniscal tear and radiographic OA  2 surgeons  Clear protocols for both groups	Arthroscopic surgery followed by exercise therapy for 2 months  Exercise therapy alone  Follow up at 2, 6, 24 and 60 months.  Outcomes: Knee injury and osteoarthritis score (KOOS) Lysholm knee	Arthroscopy with exercise not superior to exercise alone  Both groups showed highly significant clinical improvements to 24 and 60 month follow up on all subscales of KOOS, Lyshom and VAS  No differences between the groups  Dropouts: 1 lost to follow up in surgery, 3 in exercise group. At 5 years, 2 lost to follow up in surgery group, 2 in exercise group	Study based in Sweden  Clear inclusion and exclusion  At 2 year  Sealed envelope randomisation.  Baseline, similar grip strength but slightly higher pain and ADL scores in exercise group

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		scoring scale Tegner activity scale VAS for pain		
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## Summary

Three RCTs were found that addressed this question. All three RCTs found no statistical differences between surgery and conservative treatment by a physio.

Whilst none of the studies are based on UK population and randomisation was concealed by sealed envelopes, all are reasonably high quality with appropriate number of participants and length of follow up. All had clear inclusion and exclusion criteria and utilised similar well recognised outcome tools for this patient population.

## Conclusions

All studies have a consistent message that surgery is not more effective than a physiotherapy programme exercises for this patient population.

Those providing and commissioning services may want to consider the physiotherapy package which generally consisted of individualised progressive exercises once or twice a week with a home exercises programme. Procedures addressed inflammation, range of motion, concentric and eccentric muscle strength, muscle length, aerobic conditioning (bike or treadmill) and proprioception and balance.

## References

Herrlin SV, Wange PO, Lapidus G, Hallander M, Werner S, Weidenheilm (2013). Is arthroscopic surgery beneficial in treating non traumatic degenerative medial meniscal tears? A five year follow up. *Knee Surgery, Sports Traumatology, Arthroscopy* 21, 358-364

Katz JN, Brohy RH, Chaisson CE, de Chaves L, Cole BJ, Dahm DL et al (2013). Surgery versus Physical Therapy for a meniscal tear and osteoarthritis. *The New England Journal of Medicine* 368, 1675-1684

Yim JH, Seon JK, Song EK, Choi JI, Kim MC, Lee KB, Seo HY (2013). A comparative study of meniscectomy and non operative treatments for degenerative horizontal tears of the medial meniscus. *The American Journal of Sports Medicine* 41(7), 1565-1570