**Appendix 6: Other outcomes**

1. **Non-surgical**

(A) All patients (any type of meniscal tear with or without radiographic osteoarthritis)

Herrlin 2007 reported activity level at 6-12 months. After 8 weeks 18 of 47 patients (42%) in the APM group and 22 of 43 patients (51%) in the physiotherapy group had reached their pre-injury activity level.[51] This was the same after 6 months for the APM group, but not for the physiotherapy group, where 17 of 43 patients (40%) had reached their pre-injury activity level.[51] ﻿Thirteen patients (28.2%; 13/46) that were treated with physiotherapy “did not feel better after the treatment but were improved after arthroscopic surgery” performed at average 6.5 months.[61] Van de Graaf 2018 reported activity level data using the Tegner scale. At 12 months, there was no significant difference in the activity level for participants in group A (MD 0.048; 95% CI -0.36 to 0.46) or group B (MD -0.07; 95% CI -0.63 to 0.49).[45]

Katz 2013 reported that by 6 months, 30.2% (51/169) of patients randomised to physiotherapy had undergone APM. In this study, over the 12-month period of follow-up, serious adverse events occurred in 1.7% (3/174) patients randomised to APM and 1.1% (2/177) randomised to physiotherapy (including one death in each group); adverse events rated as mild or moderate in severity occurred in 8.6% (15/174) participants in the APM group and 7.3% (13/177) participants in the physiotherapy group.[52] Total knee replacement was performed in 2.9% (5/174) participants assigned to arthroscopic partial meniscectomy and 1.7% (3/177) participants assigned to physical therapy.[52] Yim 2013 reported cross-over of 1.9% (1/54) of participants randomised to physiotherapy undergoing APM.[54] Gauffin 2014 reported 21.3% (16/75) ﻿of patients crossed-over from the non-surgery group to undergo arthroscopy (21%).[42] Kise 2016 reported that 18.6% (13/70) in the physiotherapy group crossed-over to under APM at mean 7.7 months and achieved a similar outcome to patients responding to physiotherapy without cross-over.[54] Two participants (3%) in the APM group were subsequently re-operated on and one participant who had crossed over underwent another operation six months after the primary operation.[54] One participant in the APM group and one participant who crossed over from the exercise to APM group underwent osteotomy.[54] Van de Graaf 2018 reported cross-over of 29% (47/162) of participants randomised to physiotherapy undergoing APM.[45] Van de Graaf 2018 reported “serious” adverse events (including repeat surgery, cardiovascular, neurological, general medical conditions, venous thromboembolism, in 5.66% (9/159) APM patients and 4.94% (8/162) physiotherapy patients.[45] Two patients (1.26%; 2/159) in the APM group underwent knee arthroplasty within 2 years.[45]

1. **Pharmacological**

(A) All patients (any type of meniscal tear with or without radiographic osteoarthritis)

The RCT reported that by 1 year, 4.2% (5/120) had undergone total knee replacement. At 1 month, 25% (12/48) patients in the steroid group and 14% (7/50) had persisting symptoms and received an additional steroid injection. By one year, 20.8% (10/48) steroid group patients crossed-over and underwent knee arthroscopy which “amended the symptoms” in 7/10 (70%). No adverse event or activity level data was reported.

1. **Surgical**

**﻿**(A) All patients (any type of meniscal tear with or without radiographic osteoarthritis); (B) Patients with any type of meniscal tear in a non-osteoarthritic knee

One RCT (Sihvonen 2013) reported on the presence of ‘mechanical symptoms’, using a modified version of the “locking domain” of the Lysholm knee scale.[37] There was no difference between APM and sham surgery in the number of patients reporting catching or locking” during the 12-month follow-up period (risk difference (RD) 0.03 (95% CI -0.06 to 0.12). In this study, two patients (2.9%; 2/70) in the APM group underwent additional surgery after unblinding: total knee replacement and repeat APM. Five patients (6.6%; 5/76) in the placebo surgery group were unblinded and underwent additional surgery: (four APM; one high tibial osteotomy). ﻿There was one reported adverse event in the APM group (deep infection). Roos 2018 reported a cross-over rate of 36% (8/22) of the skin-incisions group undergoing APM.[44] Four knee-related adverse events were recorded (two re-arthroscopies, one cutaneous nerve lesion, one mild knee swelling) in the APM group. Further adverse events were reported in two APM group patients and three in the skin-incisions group (chest pain, finger injury, nausea, dizziness and kidney stone) including two regarded as serious (abdominal surgery and malignant melanoma). Activity level was not reported in either study.

1. **No treatment**

No trials were identified for inclusion in this group.

**Appendix 6 References**

1 Herrlin S, Hållander M, Wange P, *et al.* Arthroscopic or conservative treatment of degenerative medial meniscal tears: A prospective randomised trial. *Knee Surgery, Sport Traumatol Arthrosc* 2007;**15**:393–401. doi:10.1007/s00167-006-0243-2

2 Herrlin S V., Wange PO, Lapidus G, *et al.* Is arthroscopic surgery beneficial in treating non-traumatic, degenerative medial meniscal tears? A five year follow-up. *Knee Surgery, Sport Traumatol Arthrosc* 2013;**21**:358–64. doi:10.1007/s00167-012-1960-3

3 Katz JN, Brophy RH, Chaisson CE, *et al.* Surgery versus physical therapy for a meniscal tear and osteoarthritis. *N Engl J Med* 2013;**368**:1675–84. doi:10.1056/NEJMoa1301408

4 Yim J-H, Seon J-K, Song E-K, *et al.* A comparative study of meniscectomy and nonoperative treatment for degenerative horizontal tears of the medial meniscus. *Am J Sports Med* 2013;**41**:1565–70. doi:10.1177/0363546513488518

5 Gauffin H, Tagesson S, Meunier A, *et al.* Knee arthroscopic surgery is beneficial to middle-aged patients with meniscal symptoms: a prospective, randomised, single-blinded study. *Osteoarthr Cartil* 2014;**22**:1808–16. doi:10.1016/j.joca.2014.07.017

6 Sihvonen R, Englund M, Turkiewicz A, *et al.* Mechanical Symptoms and Arthroscopic Partial Meniscectomy in Patients With Degenerative Meniscus Tear. *Ann Intern Med* 2016;**164**:449. doi:10.7326/M15-0899

7 Roos EM, Hare KB, Nielsen SM, *et al.* Better outcome from arthroscopic partial meniscectomy than skin incisions only? A sham-controlled randomised trial in patients aged 35-55 years with knee pain and an MRI-verified meniscal tear. *BMJ Open* 2018;**8**:1–10. doi:10.1136/bmjopen-2017-019461