## Supplementary data

### Supplementary Table A1. Baseline characteristics of patients who had meniscal repair or arthroscopic partial meniscectomy (APM) assessed at 52 weeks’ follow-up and patients lost to follow-up at 52 weeks. Values are count unless otherwise specified

| Factor | Repair Assessed at 52 weeks (n = 26) | APM Assessed at 52 weeks (n = 95) | Repair Lost to follow-up (n = 6) | APM Lost to follow-up (n = 23) |
|--------|----------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Age, mean (SD) | 26 (6.3) 26 (4.6) 32 (7.1) 30 (7.0) | 26 (3.2) 26 (3.4) 26 (4.3) 28 (5.1) | 9 | 1 |
| Female | 9 | 1 | 29 | 11 |
| BMI (SD) | 26 (3.2) 26 (3.4) 26 (4.3) 28 (5.1) | 26 (3.2) 26 (3.4) 26 (4.3) 28 (5.1) | 0 | 0 |
| Participation in physical activity prior to injury | | | | |
| Sport at competitive level | 6 | 5 | 21 | 3 |
| Recreational sport | 8 | 1 | 29 | 7 |
| Light sport | 5 | 0 | 12 | 6 |
| Heavy household work | 3 | 0 | 11 | 4 |
| Light household work | 4 | 0 | 18 | 2 |
| Minimal household work | 0 | 0 | 3 | 1 |
| No household work | 0 | 0 | 1 | 0 |
| Symptom onset | | | | |
| Slowly evolved over time | 5 | 1 | 17 | 6 |
| Semi-traumatic | 8 | 1 | 36 | 6 |
| Traumatic | 13 | 4 | 42 | 11 |
| Duration of symptoms | | | | |
| 0–3 months | 7 | 2 | 25 | 7 |
| 4–6 months | 7 | 1 | 14 | 2 |
| 7–12 months | 6 | 0 | 20 | 5 |
| 13–24 months | 2 | 1 | 14 | 3 |
| > 24 months | 4 | 2 | 22 | 6 |
| KOOS scores, mean (SD) | | | | |
| KOOS4 | 50 (16) 49 (27) 49 (17) 39 (14) | 63 (19) 57 (29) 61 (20) 48 (20) | 74 (16) 70 (24) 71 (20) 61 (20) | 33 (25) 38 (38) 32 (22) 23 (20) |
| Pain | 63 (19) 57 (29) 61 (20) 48 (20) | 63 (19) 60 (28) 63 (19) 50 (18) | 74 (16) 70 (24) 71 (20) 61 (20) | 33 (25) 38 (38) 32 (22) 23 (20) |
| Symptoms | 63 (19) 57 (29) 61 (20) 48 (20) | 63 (19) 60 (28) 63 (19) 50 (18) | 74 (16) 70 (24) 71 (20) 61 (20) | 33 (25) 38 (38) 32 (22) 23 (20) |
| ADL | 45 (14) 41 (27) 40 (15) 37 (19) | 45 (14) 41 (27) 40 (15) 37 (19) | 45 (14) 41 (27) 40 (15) 37 (19) | 45 (14) 41 (27) 40 (15) 37 (19) |
| Sport/Rec | | | | |
| QoL | | | | |
| Type of repair surgery | Rasping | 1 | 0 | – | – |
| Suture | 5 | 2 | – | – |
| Arrow | 1 | 0 | – | – |
| Anchor + suture | 5 | 0 | – | – |
| More than one | 14 | 4 | – | – |
| Type of repair technique | All-inside | 15 | 2 | – | – |
| Inside-out | 0 | 1 | – | – |
| Outside-in | 0 | 1 | – | – |
| Amount resected | | | | |
| Compartment | Medial | 20 | 3 | 56 | 13 |
| Lateral | 1 | 2 | 35 | 9 |
| Both | 5 | 1 | 4 | 1 |
| Tear depth | Partial | 10 | 0 | 32 | 8 |
| Complete | 16 | 6 | 62 | 13 |

### Repair APM

| Factor | Repair Assessed at 52 weeks (n = 26) | APM Assessed at 52 weeks (n = 95) | Repair Lost to follow-up (n = 6) | APM Lost to follow-up (n = 23) |
|--------|----------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Tear type | | | | |
| Longitudinal-vertical | 22 | 6 | 25 | 8 |
| Horizontal | 1 | 0 | 4 | 1 |
| Radial | 0 | 0 | 2 | 2 |
| Vertical flap | 0 | 0 | 22 | 4 |
| Horizontal flap | 0 | 0 | 10 | 0 |
| Complex | 0 | 0 | 17 | 4 |
| More than one tear type | 3 | 0 | 15 | 4 |
| Circumferential location | Zone 1 | 20 | 5 | 24 | 6 |
| Zone 2 | 4 | 1 | 58 | 11 |
| Zone 3 | 1 | 0 | 12 | 4 |
| Radial location | | | | |
| Posterior | 19 | 2 | 48 | 12 |
| Posterior + mid-body | 2 | 2 | 23 | 1 |
| Mid body | 2 | 1 | 9 | 5 |
| Anterior + mid-body | 0 | 0 | 5 | 1 |
| Anterior | 0 | 1 | 5 | 2 |
| All | 1 | 0 | 5 | 2 |
| Meniscal tissue quality | Non-degenerative | 26 | 6 | 65 | 19 |
| Degenerative | 0 | 0 | 24 | 4 |
| Underdetermined | 0 | 0 | 6 | 0 |
| ACL status | | | | |
| Intact | 16 | 3 | 82 | 17 |
| Partial rupture | 2 | 0 | 5 | 2 |
| Total rupture | 7 | 3 | 8 | 4 |
| ICRS cartilage grade, n (%) | | | | |
| Medial compartment ≥ 2 | 0 | 0 | 10 | 5 |
| Lateral compartment ≥ 2 | 0 | 0 | 10 | 2 |
| Patellofemoral compartment ≥ 2 | 0 | 0 | 9 | 4 |

APM: arthroscopic partial meniscectomy, SD: standard deviation, BMI: body mass index, KOOS: Knee injury and Osteoarthritis Outcome Score, ADL: activities of daily living, Sport/rec: sport and recreational activities, QoL: knee-related quality of life.

* Missing data for 13 observations in repair group.
* Missing data for 5 observations in APM group. Data for repair group are only for the 8 patients who also had APM.
* Missing data for 3 observations in APM group.
* Missing data for 1 observation in repair group.
* Missing data for 2 observations in repair group.
* Non-reconstructed
* Missing data for 2 observations in APM group.
Supplementary Table A2. Primary analysis: Knee injury and Osteoarthritis Outcome absolute scores (KOOS) at pre-surgery, 12 weeks, 52 weeks, and median 5 years’ follow-up for patients who had had meniscal repair or arthroscopic partial meniscectomy (APM) performed. Values are mean (95% confidence interval)

| Factor          | Pre-surgery | 12 weeks | 52 weeks | 5 years |
|-----------------|-------------|----------|----------|---------|
|                 | Repair      | APM      | Repair   | APM     | Repair   | APM     |
|                 | (n = 32)    | (n = 118)| (n = 26) | (n = 109)| (n = 26) | (n = 95) |
| KOOS scores, unadjusted |            |          |          |         |          |         |
| KOOS4           | 50 (43–57)  | 47 (44–51) | 56 (49–63) | 61 (57–64) | 57 (50–65) | 67 (63–70) | 63 (55–70) | 72 (68–76) |
| Pain            | 62 (55–69)  | 58 (55–62) | 69 (61–76) | 73 (69–77) | 69 (62–77) | 76 (72–80) | 75 (67–83) | 82 (77–86) |
| Symptoms        | 60 (53–67)  | 60 (57–64) | 65 (58–73) | 71 (68–75) | 64 (56–71) | 76 (72–80) | 70 (62–78) | 79 (75–84) |
| ADL             | 73 (67–79)  | 69 (66–72) | 80 (74–87) | 81 (78–85) | 80 (73–86) | 84 (80–87) | 85 (78–92) | 87 (84–91) |
| Sport/Rec       | 34 (25–44)  | 30 (25–35) | 42 (32–52) | 48 (43–53) | 48 (38–58) | 57 (52–62) | 53 (42–63) | 63 (57–69) |
| QoL             | 45 (37–52)  | 39 (35–43) | 48 (40–55) | 51 (47–54) | 48 (40–56) | 57 (53–62) | 53 (45–62) | 65 (61–70) |
| KOOS scores, adjusted | 50 (44–55)  | 48 (45–51) | 56 (50–62) | 62 (59–64) | 57 (51–63) | 67 (64–70) | 62 (56–69) | 73 (69–76) |
| Pain            | 61 (56–67)  | 59 (56–62) | 69 (63–74) | 74 (71–77) | 69 (63–75) | 77 (74–80) | 75 (69–81) | 82 (79–86) |
| Symptoms        | 62 (56–67)  | 61 (58–64) | 67 (61–73) | 72 (69–74) | 65 (59–71) | 75 (72–78) | 72 (66–79) | 79 (76–83) |
| ADL             | 72 (67–77)  | 70 (67–72) | 79 (74–84) | 82 (80–85) | 79 (74–84) | 84 (82–87) | 84 (79–89) | 88 (86–91) |
| Sport/Rec       | 33 (25–41)  | 31 (27–35) | 41 (32–50) | 49 (45–53) | 47 (38–56) | 57 (53–62) | 51 (42–61) | 64 (59–69) |
| QoL             | 42 (36–49)  | 40 (37–43) | 46 (39–53) | 52 (48–55) | 46 (39–53) | 58 (55–62) | 51 (44–59) | 66 (62–70) |

a Adjusted for age, sex, BMI, and preoperative KOOS score.

For abbreviations, see Supplementary Table 1.

Supplementary Table A3. Sensitivity analysis: effect of excluding patients who had both repair and arthroscopic partial meniscectomy (APM) performed on change in Knee injury and Osteoarthritis Outcome Scores (KOOS4) from baseline prior to surgery to 12 weeks, 52 weeks, and median 5 years’ follow-up for patients who had meniscal repair or APM performed. Values are mean (95% confidence interval)

| Change from baseline | KOOS4 scores, unadjusted | KOOS4 scores, adjusted a |
|----------------------|--------------------------|--------------------------|
|                      | Repair | APM | Difference | Repair | APM | Difference |
| at 12 weeks (n = 19/109) | 6.1 (−1.8 to 14) | 14 (10 to 17) | −7.6 (−16 to 1.0) | 6.1 (−1.6 to 14) | 14 (10 to 17) | −7.6 (−16 to −0.8) |
| at 52 weeks (n = 19/95)   | 6.0 (−1.9 to 14) | 19 (16 to 23) | −13 (−22 to −4.8) | 5.9 (−1.9 to 14) | 19 (16 to 23) | −13 (−22 to −4.7) |
| at 5 years (n = 17/76)    | 13 (4.6 to 21) | 25 (21 to 29) | −12 (−22 to −3.4) | 13 (4.5 to 21) | 25 (21 to 29) | −13 (−21 to −3.6) |

a Adjusted for age, sex, BMI, and preoperative KOOS score.

Supplementary Table A4. Sensitivity analysis: effect of excluding patients who had partial or total ACL rupture on change in Knee injury and Osteoarthritis Outcome Scores (KOOS4) from baseline prior to surgery to 12 weeks, 52 weeks, and median 5 years’ follow-up for patients who had meniscal repair or APM performed. Values are mean (95% confidence interval)

| Change from baseline | KOOS4 scores, unadjusted | KOOS4 scores, adjusted a |
|----------------------|--------------------------|--------------------------|
|                      | Repair | APM | Difference | Repair | APM | Difference |
| at 12 weeks (n = 14/92) | 6.2 (−2.9 to 15) | 15 (11 to 19) | −8.7 (−19 to 1.2) | 5.9 (−3.1 to 15) | 15 (11 to 19) | −9.2 (−19 to 0.5) |
| at 52 weeks (n = 16/82) | 1.8 (−6.9 to 11) | 20 (17 to 24) | −19 (−28 to −9.0) | 1.7 (−6.9 to 10) | 20 (16 to 24) | −18 (−28 to −8.9) |
| at 5 years (n = 14/65)   | 11 (1.9 to 20) | 26 (22 to 30) | −15 (−25 to −4.7) | 1.0 (2.0 to 20) | 26 (22 to 30) | −15 (−25 to −4.8) |

a Adjusted for age, sex, BMI, and preoperative KOOS score.
### Supplementary Table A5. Sensitivity analysis: effect of additional adjustment for surgical findings with standardized mean differences (SMD) ≥ 0.50 \(^a\) between surgery groups (tear pattern, tear location, and tissue quality) on change in Knee Injury and Osteoarthritis Outcome Scores (KOOS\(_4\)) from baseline prior to surgery to 12 weeks, 52 weeks, and median 5 years’ follow-up for patients who had meniscal repair or APM performed. Values are mean (95% confidence interval)

| Change from baseline | KOOS\(_4\) scores, adjusted \(^b\) | Difference |
|----------------------|----------------------------------|------------|
|                      | Repair                           | APM        |
| at 12 weeks (n = 25/106) | 6.7 (−0.1 to 14)                | 14 (11 to 18) | −7.5 (−15 to 0.7) |
| at 52 weeks (n = 25/94)   | 7.8 (1.0 to 15)                 | 19 (16 to 23) | −12 (−19 to −3.9) |
| at 5 years (n = 21/74)    | 14 (6.4 to 21)                  | 25 (22 to 29) | −12 (−20 to −3.5) |

\(^a\) Comparability is measured in SD units (derived from Kruskal–Wallis 2-sample test). An SMD ≥0.5 indicates the variable may be a confounding factor. (Imbens G W, Rubin D B. Causal inference for statistics, social, and biomedical sciences: an introduction. Cambridge: Cambridge University Press; 2015.)

\(^b\) Adjusted for age, sex, BMI, preoperative KOOS score, meniscal tear pattern, tear location, and tissue quality.

### Supplementary Table A6. Sensitivity analyses: effect of null-responder and best/worst case scenario imputation of missing data on change in Knee Injury and Osteoarthritis Outcome Score (KOOS\(_4\)) from baseline prior to surgery to 12 weeks, 52 weeks, and median 5 years’ follow-up for patients who had meniscal repair or arthroscopic partial meniscectomy (APM) performed. Values are mean (95% confidence interval)

| Change from baseline | KOOS\(_4\) scores, unadjusted | Difference |
|----------------------|------------------------------|------------|
|                      | Repair                       | APM        |
| at 12 weeks (n = 32/118) | 5.1 (−1.3 to 12)             | 13 (9.4 to 16) | −7.5 (−15 to 0.3) |
| at 52 weeks (n = 32/118) | 6.0 (−0.4 to 13)             | 15 (12 to 18) | −9.0 (−16 to −1.7) |
| at 5 years (n = 32/118)  | 9.0 (2.5 to 16)              | 16 (13 to 20) | −7.3 (−15 to −0.0) |

| Sensitivity analysis: 1 |
|-------------------------|
| at 12 weeks (n = 32/118) | 9.1 (2.6 to 16)              | 13 (9.2 to 16) | −3.5 (−11 to 3.9) |
| at 52 weeks (n = 32/118) | 9.8 (3.3 to 16)              | 18 (14 to 21) | −7.7 (−15 to −0.3) |
| at 5 years (n = 32/118)  | 19 (12 to 26)                | 21 (18 to 24) | −2.0 (−9.4 to 5.4) |

| Sensitivity analysis: 2 |
|-------------------------|
| at 12 weeks (n = 32/118) | 3.2 (−3.6 to 10)             | 15 (11 to 18) | −12 (−19 to −4.0) |
| at 52 weeks (n = 32/118) | 5.4 (−1.4 to 12)             | 24 (20 to 27) | −16 (−26 to −11) |
| at 5 years (n = 32/118)  | 6.4 (−0.3 to 13)             | 32 (30 to 35) | −25 (−33 to −17) |

| Sensitivity analysis: 3 |
|-------------------------|
| at 12 weeks (n = 32/118) | 3.2 (−3.6 to 10)             | 15 (11 to 18) | −12 (−19 to −4.0) |
| at 52 weeks (n = 32/118) | 5.4 (−1.4 to 12)             | 24 (20 to 27) | −16 (−26 to −11) |
| at 5 years (n = 32/118)  | 6.4 (−0.3 to 13)             | 32 (30 to 35) | −25 (−33 to −17) |

\(^a\) Adjusted for age, sex, BMI, and preoperative KOOS score.

\(^b\) 25th and 75th percentile values calculated from patients with available data at 12 weeks, 52 weeks, and −5 years in the repair and APM group, respectively.

Mixed models that include all patients with and without missing data at any time point should give unbiased results under the assumption of missing at random. However, we conducted a number of sensitivity analyses to test the robustness of the results including null-responder and best/worst case scenario imputation of KOOS\(_2\) scores. (Vittinghoff E. Regression methods in biostatistics: linear, logistic, survival, and repeated measures models. 2nd ed. New York: Springer; 2012, p 509). Sensitivity analyses:

1 Null-responder imputation (i.e., baseline observation carried forward).
2 Imputation of 75 percentile and 25 percentile KOOS\(_2\) value for patients lost to follow-up at 12 weeks, 52 weeks, and −5 years in repair group (i.e., assuming best case) and APM group (i.e., assuming worst case), respectively. \(^b\)
3 Imputation of 75 percentile and 25 percentile KOOS\(_2\) value for patients lost to follow-up at 12 weeks, 52 weeks, and −5 years in APM group (i.e., assuming best case) and repair group (i.e., assuming worst case), respectively. \(^b\).
Supplementary Table A7. Sensitivity analysis: effect of excluding patients who had subsequent surgery on index knee during the 5-year follow-up on change in Knee injury and Osteoarthritis Outcome Scores (KOOS\textsubscript{4}) from baseline prior to surgery to 12 weeks, 52 weeks, and median 5 years; follow-up for patients having had meniscal repair or APM performed. Values are mean (95% confidence interval)

| Change from baseline | KOOS\textsubscript{4} scores, unadjusted | KOOS\textsubscript{4} scores, adjusted * |
|----------------------|----------------------------------------|----------------------------------------|
|                      | Repair | APM | Difference | Repair | APM | Difference |
| at 12 weeks (n = 16/96) | 3.3 (–8.3 to 15) | 15 (10 to 20) | –12 (–24 to 0.8) | 3.0 (–8.5 to 15) | 15 (10 to 20) | –12 (–24 to 0.5) |
| at 52 weeks (n = 14/82) | 1.2 (–10 to 13) | 24 (19 to 28) | –23 (–35 to –10) | 1.6 (–9.9 to 13) | 23 (19 to 28) | –22 (–34 to –9.3) |
| at 5 years (n = 10/62)  | 20 (8.3 to 31) | 29 (24 to 33) | –9.0 (–21 to 3.1) | 20 (8.3 to 31) | 29 (24 to 33) | –9.0 (–21 to 3.1) |

* Adjusted for age, sex, BMI, and preoperative KOOS score.
Supplementary Table A8. Subgroup analysis: change in KOOS from baseline prior to surgery to 12 weeks, 52 weeks, and median 5 years’ follow-up for patients who had meniscal repair or arthroscopic partial meniscectomy (APM) performed excluding patients in the APM group who had a meniscal tear pattern typically considered ineligible for repair (see foot note). Values are mean (95% confidence interval).

| Factor                | Repair          | APM            | Difference       |
|-----------------------|-----------------|----------------|-----------------|
| **KOOS scores, unadjusted** |                 |                |                 |
| Change from baseline at 12 weeks |                 |                |                 |
| n                     | 26              | 22             |                 |
| KOOS4                 | 5.8 (–0.7 to 12)| 19 (12 to 27)  | –14 (–23 to –3.8)|
| Pain                  | 6.9 (0.3 to 14) | 21 (13 to 28)  | –14 (–24 to –4.9)|
| Symptoms              | 5.4 (–1.7 to 13)| 10 (2.1 to 18) | –4.7 (–15 to 6.0)|
| ADL                   | 7.1 (1.7 to 12) | 17 (11 to 22)  | –9.5 (–17 to –1.5)|
| Sport/Rec             | 8.0 (–2.0 to 18)| 28 (17 to 39)  | –20 (–35 to –4.7)|
| QoL                   | 3.0 (–4.6 to 11)| 19 (10 to 27)  | –16 (–27 to –4.5)|
| Change from baseline at 52 weeks |                 |                |                 |
| n                     | 26              | 18             |                 |
| KOOS4                 | 7.1 (0.6 to 14) | 29 (22 to 37)  | –22 (–32 to –12)|
| Pain                  | 7.5 (0.9 to 14) | 29 (21 to 37)  | –21 (–31 to –11)|
| Symptoms              | 3.5 (–3.7 to 11)| 23 (15 to 32)  | –20 (–31 to –8.6)|
| ADL                   | 6.6 (1.3 to 12) | 22 (16 to 29)  | –16 (–24 to –7.5)|
| Sport/Rec             | 14 (4.0 to 24)  | 39 (28 to 51)  | –25 (–41 to –9.8)|
| QoL                   | 3.6 (–4.0 to 11)| 26 (17 to 35)  | –23 (–35 to –11)|
| Change from baseline at 5 years |                 |                |                 |
| n                     | 22              | 13             |                 |
| KOOS4                 | 13 (5.6 to 19)  | 37 (28 to 45)  | –24 (–35 to –13)|
| Pain                  | 13 (6.3 to 20)  | 34 (25 to 42)  | –20 (–32 to –9.1)|
| Symptoms              | 10 (2.4 to 18)  | 25 (15 to 34)  | –15 (–27 to –2.4)|
| ADL                   | 12 (5.9 to 17)  | 25 (18 to 32)  | –14 (–23 to –4.7)|
| Sport/Rec             | 19 (79 to 29)   | 51 (37 to 64)  | –32 (–49 to –15)|
| QoL                   | 8.6 (0.6 to 17) | 39 (29 to 49)  | –30 (–43 to –17)|
| **KOOS scores, adjusted** |                 |                |                 |
| Change from baseline at 12 weeks |                 |                |                 |
| n                     | 26              | 22             |                 |
| KOOS4                 | 6.1 (–0.3 to 12)| 20 (12 to 27)  | –14 (–23 to –4.0)|
| Pain                  | 9.7 (2.6 to 17) | 21 (14 to 28)  | –11 (–21 to –0.9)|
| Symptoms              | 5.7 (–1.3 to 13)| 10 (2.4 to 18) | –4.6 (–15 to 5.9)|
| ADL                   | 7.1 (1.9 to 12) | 17 (11 to 22)  | –9.4 (–17 to –1.6)|
| Sport/Rec             | 8.1 (–1.7 to 18)| 28 (17 to 39)  | –20 (–35 to –5.3)|
| QoL                   | 3.3 (–4.1 to 11)| 19 (11 to 27)  | –16 (–27 to –4.6)|
| Change from baseline at 52 weeks |                 |                |                 |
| n                     | 26              | 18             |                 |
| KOOS4                 | 7.4 (1.0 to 14) | 29 (21 to 36)  | –21 (–31 to –11)|
| Pain                  | 6.9 (–0.2 to 14)| 28 (20 to 35)  | –20 (–30 to –10)|
| Symptoms              | 3.8 (–3.2 to 10.8)| 23 (15 to 31)| –19 (–30 to –8.2)|
| ADL                   | 6.8 (1.5 to 12.0)| 22 (15 to 28)| –15 (–23 to –6.7)|
| Sport/Rec             | 15 (4.9 to 24.6)| 39 (27 to 51)  | –24 (–39 to –8.6)|
| QoL                   | 26 (17 to 35)   | –22 (–34 to –11)| 9.2 (1.3 to 17)|
| Change from baseline at 5 years |                 |                |                 |
| n                     | 22              | 76             |                 |
| KOOS4                 | 13 (6.3 to 20)  | 37 (28 to 45)  | –24 (–35 to –13)|
| Pain                  | 15 (7.4 to 22)  | 33 (25 to 42)  | –20 (–31 to –8.6)|
| Symptoms              | 11 (3.4 to 18)  | 24 (15 to 34)  | –14 (–25 to –1.6)|
| ADL                   | 12 (6.7 to 18)  | 25 (18 to 32)  | –13 (–22 to –4.1)|
| Sport/Rec             | 19 (8.7 to 30)  | 53 (40 to 66)  | –34 (–50 to –17)|
| QoL                   | 9.2 (1.3 to 17) | 38 (28 to 48)  | –29 (–42 to –17)|

* Adjusted for age, sex, BMI, and preoperative KOOS score.

For abbreviations, see Supplementary Table 1.

To make the 2 groups as comparable as possible we conducted a subgroup analysis excluding patients in the APM group with tears that are typically considered ineligible for meniscal repair (i.e., tears not being non-degenerative longitudinal-vertical tears located in the red–red or red–white zone as recorded by the surgeon at arthroscopy using the ISAKOS questionnaire).

(Burns et al. Meniscus repair and transplantation techniques. J Knee Surg 2011; 24(3): 167-74. Karia et al. Current concepts in the techniques, indications and outcomes of meniscal repairs. Eur J Orthop Surg Traumatol 2019; 29 (3): 509-20.)
Supplementary Table A9. Subgroup analyses: Knee injury and Osteoarthritis Outcome absolute scores (KOOS) at pre-surgery, 12 weeks, 52 weeks, and median 5 years’ follow-up on index knee during the 5-year follow-up on change in Knee injury and Osteoarthritis Outcome Scores (KOOS) from baseline prior to surgery to 12 weeks, 52 weeks, and median 5 years’ follow-up for patients who had meniscal repair or arthroscopic partial meniscectomy (APM) performed, excluding patients in the APM group who had a meniscal tear pattern typically considered ineligible for repair (i.e., not having a non-degenerative vertical-longitudinal tear located in the red–red or red–white zone of the meniscus). Values are mean (95% confidence interval)

| Factor | Pre-surgery | 12 weeks | 52 weeks | 5 Years |
|--------|-------------|----------|----------|---------|
|        | Repair      | APM      | Repair   | APM     | Repair | APM    |
|        | (n = 32)    | (n = 23)  | (n = 26) | (n = 18) | (n = 22) | (n = 13) |
| KOOS4, unadjusted | | | | | | |
| Pain   | 50 (43–57) | 40 (32–48) | 56 (9–63.0) | 59 (51–67) | 57 (50–64) | 68 (60–78) | 63 (55–70) | 76 (67–86) |
| Symptoms | 62 (55–69) | 50 (42–58) | 69 (61–76) | 71 (62–79) | 69 (62–77) | 79 (70–88) | 75 (67–83) | 84 (74–93) |
| ADL    | 73 (67–79) | 54 (57–71) | 80 (74–86) | 80 (73–88) | 80 (74–86) | 86 (79–94) | 85 (78–91) | 89 (81–97) |
| Sport/Rec | 34 (25–44) | 22 (11–34) | 42 (32–52) | 50 (38–61) | 48 (38–58) | 62 (49–74) | 53 (42–64) | 73 (59–87) |
| QoL    | 45 (38–51) | 31 (23–39) | 48 (40–55) | 50 (41–58) | 48 (41–56) | 57 (48–66) | 53 (45–61) | 70 (60–80) |

| KOOS4, adjusted | | | | | | | | |
| Pain | 47 (42–52) | 45 (39–51) | 53 (48–59) | 56 (59–71) | 54 (49–60) | 74 (67–80) | 60 (54–66) | 82 (74–89) |
| Symptoms | 59 (54–64) | 56 (50–61) | 66 (61–72) | 76 (70–82) | 67 (61–72) | 83 (77–90) | 73 (67–79) | 89 (81–96) |
| ADL | 71 (67–75) | 68 (63–73) | 78 (74–83) | 84 (79–89) | 78 (74–82) | 90 (84–95) | 83 (79–88) | 93 (87–100) |
| Sport/Rec | 30 (23–38) | 27 (19–36) | 38 (30–47) | 56 (47–65) | 45 (37–53) | 66 (56–76) | 49 (41–58) | 80 (68–91) |
| QoL | 41 (35–46) | 37 (30–45) | 44 (38–50) | 57 (49–64) | 44 (38–51) | 64 (56–71) | 50 (43–57) | 76 (67–86) |

*a* Adjusted for age, sex, BMI, and preoperative KOOS score.

For abbreviations, see Supplementary Table 1.

Supplementary Table A10. Sensitivity analysis (in subgroup): effect of excluding patients who had subsequent surgery on index knee during the 5-year follow-up on change in Knee injury and Osteoarthritis Outcome Scores (KOOS) from baseline prior to surgery to 12 weeks, 52 weeks, and median 5 years’ follow-up for patients who had meniscal repair or arthroscopic partial meniscectomy (APM) performed, excluding patients in the APM group who had a meniscal tear pattern typically considered ineligible for repair (i.e., not having a non-degenerative vertical-longitudinal tear located in the red–red or red–white zone of the meniscus). Values are mean (95% confidence interval)

| Change from baseline | KOOS4 scores, unadjusted | Difference | KOOS4 scores, adjusted | Difference |
|----------------------|--------------------------|------------|------------------------|------------|
| Repair               | APM                      |            | Repair                 | APM        |
| at 12 weeks (n = 9/10) | 3.3 (–8.3 to 15) | 20 (8.6 to 31) | –17 (–33 to –0.3) | 3.2 (–8.4 to 15) | 20 (8.6 to 31) | –17 (–33 to –0.5) |
| at 52 weeks (n = 9/8)  | 1.2 (–10 to 13)          | 33 (21 to 45) | –32 (–49 to –15)      | 1.8 (–9.8 to 13) | 32 (20.4 to 44) | –30 (–47 to –14) |
| at 5 years (n = 10/10) | 20 (8.3 to 31)           | 36 (24 to 47) | –16 (–32 to –0.2)     | 20 (8.3 to 31) | 36 (24 to 47) | –16 (–32 to –0.2) |

*a* Adjusted for age, sex, BMI, and preoperative KOOS score.

Supplementary Table A11. Sensitivity analysis investigating change in Knee injury and Osteoarthritis Outcome Scores (KOOS) from baseline prior to surgery to 12 weeks, 52 weeks and median 5 years follow-up for patients with a traumatic meniscal tear having had meniscal repair or arthroscopic partial meniscectomy (APM) performed. Values are mean (95% confidence interval)

| Change from baseline | KOOS4 scores, unadjusted | Difference | KOOS4 scores, adjusted | Difference |
|----------------------|--------------------------|------------|------------------------|------------|
| Repair               | APM                      |            | Repair                 | APM        |
| at 12 weeks (n = 21/69) | 3.4 (–4.4 to 11) | 14 (9.6 to 18) | –11 (–20 to –1.6)     | 3.7 (–4.0 to 11) | 14 (9.7 to 18) | –10 (–19 to –1.5) |
| at 52 weeks (n = 20/58) | 6.8 (–1.2 to 15) | 19 (14 to 23) | –12 (–21 to –2.5)     | 6.9 (–0.9 to 15) | 18 (14 to 23) | –11 (–20 to –2.2) |
| at 5 years (n = 16/48)  | 12 (3.8 to 21)           | 24 (19 to 29) | –12 (–22 to –1.8)     | 13 (4.1 to 21) | 24 (19 to 29) | –12 (–21 to –1.9) |

*a* Traumatic meniscal tear defined as patients aged 18–34 replying that symptoms evolved as a result of a specific or violent incident, and patients aged 34–55 replying that symptoms evolved as a result of a violent incident. In the original study protocol (Thorlund et al. 2013) the intent was to conduct this study on patients with traumatic tears only. However, as no clear consensus exists on the definition of traumatic and degenerative tears, we changed this to including all patients aged 18–40 years. The results of the primary analysis of the study are shown using the originally planned inclusion criteria.

*b* Adjusted for age, sex, BMI, and preoperative KOOS score. Numbers are mean values (95% confidence interval).