**Supplementary Table 1**. Proportion of responders1 at each follow-up in the exercise therapy (ET) and arthroscopic partial meniscectomy APM group

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **3 months** |  |  | 1**2 months** |  |  | **5 years** |  |
|  | ET | APM | P-value |  | ET | APM | P-value |  | ET | APM | P-value |
| **Quadriceps**  | **<15%** | **≥15%** | **<15%** | **≥15%** |  |  | **<15%** | **≥15%** | **<15%** | **≥15%** |  |  | **<15%** | **≥15%** | **<15%** | **≥15%** |  |
|  Peak torque (N·m/kg) | 35 (55.6) | 28 (44.4) | 51 (83.6) | 10 (16.4) | <0.001 |  | 34 (57.6) | 25 (42.4) | 46 (74.2) | 16 (25.8) | 0.054 |  | 41 (71.9) | 16 (28.1) | 47 (79.7) | 12 (20.3) | 0.331 |
|  Total work (J/kg) | 40 (64.5) | 22 (35.5) | 55 (90.2) | 6 (9.8) | <0.001 |  | 37 (62.7) | 22 (37.3) | 44 (71.0) | 18 (29.0) | 0.335 |  | 42 (73.7) | 15 (26.3) | 47 (79.7) | 12 (20.3) | 0.446 |
| **Hamstrings** | **<20%** | **≥20%** | **<20%** | **≥20%** |  |  | **<20%** | **≥20%** | **<20%** | **≥20%** |  |  | **<20%** | **≥20%** | **<20%** | **≥20%** |  |
|  Peak torque (N·m/kg) | 41 (65.1) | 22 (34.9) | 50 (82.0) | 11 (18.0) | 0.033 |  | 39 (66.1) | 20 (33.9) | 50 (80.6) | 12 (19.4) | 0.070 |  | 44 (77.2) | 13 (22.8) | 53 (89.8) | 6 (10.2) | 0.066 |
|  Total work (J/kg) | 39 (62.9) | 23 (37.1) | 51 (83.6) | 10 (16.4) | 0.010 |  | 34 (57.6) | 25 (42.4) | 51 (82.3) | 11 (17.7) | 0.003 |  | 43 (75.4) | 14 (24.6) | 55 (93.2) | 4 (6.8) | 0.008 |

Values are numbers (%)

1=Change in normalized quadriceps strength of ≥15% or in normalized hamstrings strength of ≥20%
 N·m/kg=Newton meter/kilograms; J/kg=Joule/kilograms

**Supplementary Table 2.** Estimated absolute knee muscle strength at follow-ups for the exercise therapy (ET) and arthroscopic partial meniscectomy (APM) group

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **3 months** |  | 1**2 months** |  | **5 years** |
|  | ET (n=63) | APM (n=61) |  | ET (n=59) | APM (n=62) |  | ET (n=57) | APM (n=59) |
| **Quadriceps**  |  |  |  |  |  |  |  |  |
|  Peak torque (N·m/kg)  |  |  |  |  |  |  |  |  |
|  Involved | 2.22 (2.09, 2.34) | 1.99 (1.86, 2.12) |  | 2.20 (2.07, 2.32) | 2.14 (2.02, 2.26) |  | 2.08 (1.97, 2.19) | 2.05 (1.95, 2.16) |
|  Uninvolved | 2.35 (2.24, 2.45) | 2.29 (2.18, 2.39) |  | 2.32 (2.22, 2.43) | 2.28 (2.18, 2.39) |  | 2.04 (1.93, 2.15) | 2.09 (1.98, 2.20) |
|  Total work (J/kg) |  |  |  |  |  |  |  |  |
|  Involved | 10.61 (9.99, 11.23)1 | 9.50 (8.88, 10.12) |  | 10.68 (10.06, 11.29) | 10.21 (9.60, 10.81) |  | 10.06 (9.49, 10.62) | 9.99 (9.43, 10.55) |
|  Uninvolved | 11.05 (10.54, 11.57)1 | 10.72 (10.21, 11.24) |  | 11.17 (10.65, 11.68) | 10.82 (10.30, 11.33) |  | 9.84 (9.29, 10.38) | 10.14 (9.60, 10.68) |
| **Hamstrings** |  |  |  |  |  |  |  |  |
|  Peak torque (N·m/kg) |  |  |  |  |  |  |  |  |
|  Involved | 1.18 (1.11, 1.24) | 1.17 (1.10, 1.23) |  | 1.16 (1.09, 1.23) | 1.16 (1.10, 1.23) |  | 1.06 (1.00, 1.12) | 1.08 (1.02, 1.14) |
|  Uninvolved | 1.20 (1.14, 1.25) | 1.18 (1.12, 1.24) |  | 1.20 (1.14, 1.26) | 1.18 (1.12, 1.24) |  | 1.05 (0.99, 1.12) | 1.07 (1.01, 1.14) |
|  Total work (J/kg) |  |  |  |  |  |  |  |  |
|  Involved | 6.50 (6.07, 6.93)1 | 6.45 (6.02, 6.88) |  | 6.37 (5.93, 6.80) | 6.48 (6.05, 6.91) |  | 5.80 (5.37, 6.24) | 5.95 (5.52, 6.39) |
|  Uninvolved | 6.58 (6.20, 6.96)1 | 6.58 (6.20, 6.96) |  | 6.66 (6.28, 7.04) | 6.65 (6.27, 7.03) |  | 5.65 (5.25, 6.06) | 6.04 (5.64, 6.44) |

Values are means (95% confidence interval)
N·m/kg=Newton meter/kilograms; J/kg=Joule/kilograms
1n=62

**Supplementary Table 3.** Baseline characteristics for participants with and without radiographic knee osteoarthritis progression

|  |  |  |  |
| --- | --- | --- | --- |
| Characteristics | Progressors (n=65) |  | Non-Progressors (n=55) |
| Gender, men | 37 (56.9) |  | 37 (67.3) |
| Age (years) | 49.4 (6.2) |  | 49.8 (6.3) |
| Body mass index (kg/m2) | 26.6 (4.1) |  | 25.3 (3.5) |
| KOOS pain | 62.3 (18.0) |  | 70.5 (15.8) |
| Treatment group, exercise therapy | 31 (47.7) |  | 27 (49.1) |
|  KL grade |  |  |  |
|  Grade 0 | 52 (80.0) |  | 34 (61.8) |
|  Grade 1 | 11 (16.9) |  | 19 (34.5) |
|  Grade 2 | 2 (3.1) |  | 2 (3.6) |
| Quadriceps peak torque (N·m/kg) |  |  |  |
|  Men | 2.08 (0.53) |  | 2.39 (0.49) |
|  Women | 1.53 (0.44) |  | 1.87 (0.38) |
| Hamstrings peak torque (N·m/kg) |  |  |  |
|  Men | 1.16 (0.31) |  | 1.23 (0.25) |
|  Women | 0.85 (0.24) |  | 0.97 (0.22) |
| Values are means (SD) or numbers (%)KOOS=Knee Injury and Osteoarthritis Outcome Score; KL=Kellgren and Lawrence classification; N·m/kg=Newton meter/kilograms |