

Additional File I. Descriptive characteristics and univariable analysis: 'any OA'

| | NONE | Pattern of knee OA | | | Binary logistic regression† | | |
|--|------------|--------------------|------------|------------|-----------------------------|--------|--------------|
| | | ISO-PF | ISO-TF | COMB | ISO-PF | COMB | COMB |
| | | | | | vs NONE | p | vs ISO-PF |
| | n=236 | n=178 | n=30 | n=301 | | | |
| Age, years: mean (SD) | 62.1 (7.7) | 64.5 (8.0) | 63.8 (8.2) | 68.3 (8.6) | <0.001 | <0.001 | <0.001 |
| Female gender | 157 (67) | 80 (45) | 20 (67) | 150 (50) | <0.001 | 0.001 | 0.182 |
| BMI, kg/m ² : mean (SD) | 28.3 (4.9) | 29.4 (4.5) | 30.0 (3.3) | 30.8 (5.8) | 0.003 | <0.001 | <0.001 |
| I st degree relative with arthritis | 152 (64) | 110 (62) | 23 (77) | 169 (56) | 0.996 | 0.679 | 0.396 |
| Clinical hand OA | 43 (18) | 32 (18) | 5 (17) | 52 (17) | 0.945 | 0.554 | 0.223 |
| Previous meniscectomy | 2 (1) | 4 (2) | 0 (0) | 20 (7) | - | - | - |
| Contralateral TKR | 2 (1) | 1 (1) | 0 (0) | 9 (3) | - | - | - |
| Time since onset | | | | | | | |
| 1-5 yrs | 85 (36) | 67 (38) | 11 (37) | 94 (31) | | | |
| 5-10 yrs | 50 (21) | 35 (20) | 4 (13) | 61 (20) | | | |
| >10 yrs | 56 (24) | 56 (32) | 13 (43) | 122 (41) | 0.358 | <0.001 | 0.059 |
| Gradual onset | 160 (68) | 125 (70) | 20 (67) | 212 (70) | 0.298 | 0.947 | 0.364 |
| Onset following injury | 24 (10) | 23 (13) | 7 (23) | 53 (18) | 0.453 | 0.023 | 0.056 |
| Whole leg pain | 36 (16) | 19 (11) | 3 (10) | 28 (9) | 0.124 | 0.010 | 0.356 |
| Pain days in past 6mo | | | | | | | |
| 31-89 | 67 (28) | 39 (22) | 4 (13) | 82 (27) | | | |
| 90+ | 43 (18) | 47 (26) | 4 (13) | 107 (36) | 0.283 | 0.003 | 0.105 |
| Frequent symptoms‡ | 88 (37) | 77 (43) | 7 (23) | 168 (56) | 0.417 | 0.003 | 0.062 |
| Bilateral knee pain | 169 (72) | 143 (80) | 19 (63) | 230 (76) | 0.094 | 0.919 | 0.042 |
| Current pain intensity, 0-10NRS | 2.6 (2.4) | 3.3 (2.6) | 2.6 (2.7) | 3.9 (2.9) | 0.041 | 0.002 | 0.326 |
| Pain walking on flat* | 60 (28) | 63 (37) | 7 (25) | 156 (55) | 0.422 | <0.001 | 0.007 |
| Incident pain | 144 (61) | 126 (71) | 27 (90) | 205 (68) | 0.145 | 0.047 | 0.777 |
| Duration of morning stiffness | | | | | | | |
| ≤30 mins | 122 (52) | 104 (58) | 16 (53) | 188 (63) | | | |
| >30 mins | 16 (7) | 8 (4) | 2 (7) | 16 (5) | 0.199 | 0.130 | 0.952 |
| Stiffness on waking* | 68 (32) | 74 (44) | 6 (21) | 168 (59) | 0.045 | <0.001 | 0.022 |
| Inactivity gelling | 16 (70) | 141 (79) | 21 (70) | 259 (86) | 0.092 | 0.002 | 0.098 |
| Swollen in past month | 67 (28) | 50 (28) | 8 (27) | 131 (44) | 0.498 | 0.001 | 0.017 |
| Dramatic swelling ever | 22 (9) | 24 (14) | 5 (17) | 62 (21) | 0.273 | <0.001 | 0.041 |
| Locking | 27 (11) | 20 (11) | 2 (7) | 40 (13) | 0.887 | 0.521 | 0.308 |
| Giving way | 62 (26) | 62 (35) | 10 (33) | 100 (33) | 0.078 | 0.354 | 0.395 |
| Significant interference with daily activities | 47 (20) | 48 (27) | 3 (10) | 101 (34) | 0.250 | 0.088 | 0.683 |
| Difficulty descending stairs* | 57 (27) | 74 (43) | 6 (21) | 166 (59) | 0.019 | <0.001 | 0.053 |
| Intercondylar gap>0cm | 42 (18) | 32 (18) | 3 (10) | 84 (28) | 0.504 | 0.005 | <0.001 |
| Intermalleolar gap>0cm | 75 (32) | 51 (29) | 5 (17) | 100 (33) | 0.627 | 0.926 | 0.923 |
| PFJ compression test | | | | | | | |
| Glide pain | 44 (19) | 35 (20) | 6 (20) | 65 (22) | | | |
| Compression pain | 61 (26) | 59 (33) | 6 (20) | 94 (31) | 0.202 | 0.383 | 0.273 |
| Knee effusion | | | | | | | |
| Mild | 38 (16) | 32 (18) | 6 (20) | 104 (35) | | | |
| Moderate/gross | 11 (5) | 17 (10) | 3 (10) | 56 (19) | 0.393 | <0.001 | <0.001 |
| Fixed flexion deformity | 3 (1) | 13 (7) | 2 (7) | 72 (24) | 0.016 | <0.001 | <0.001 |
| Bony enlargement | | | | | | | |
| Possible | 63 (27) | 52 (29) | 13 (43) | 94 (31) | | | |
| Definite | 20 (9) | 16 (9) | 1 (3) | 84 (28) | 0.659 | <0.001 | <0.001 |
| Mediolateral instability | | | | | | | |
| Possible | 73 (31) | 53 (30) | 12 (40) | 75 (25) | | | |
| Definite | 49 (21) | 34 (19) | 5 (17) | 102 (34) | 0.980 | 0.055 | 0.019 |

Additional File I. continued

| | NONE | Pattern of knee OA | | | Binary logistic regression† | | |
|---|--------------|--------------------|--------------|--------------|-----------------------------|--------------------|----------------------|
| | | ISO-PF | ISO-TF | COMB | ISO-PF vs NONE | COMB vs NONE | COMB vs ISO-PF |
| Knee extensor strength, mmHg | | | | | | | |
| 201-299 | 72 (31) | 52 (29) | 5 (17) | 70 (23) | | | |
| 141-200 | 67 (29) | 34 (19) | 9 (30) | 83 (28) | | | |
| 0-140 | 46 (20) | 47 (26) | 8 (27) | 83 (28) | 0.141 | 0.156 | 0.375 |
| Knee flexor strength, mmHg | | | | | | | |
| 141-184 | 70 (30) | 36 (20) | 8 (27) | 70 (23) | | | |
| 101-139 | 56 (24) | 39 (22) | 10 (33) | 66 (22) | | | |
| 0-100 | 61 (26) | 45 (25) | 6 (20) | 90 (30) | 0.202 | 0.326 | 0.773 |
| Coarse crepitus | | | | | | | |
| Possible | 33 (14) | 30 (17) | 4 (13) | 70 (23) | | | |
| Definite | 26 (11) | 36 (20) | 3 (10) | 95 (32) | 0.019 | <0.001 | 0.003 |
| Knee flexion ROM, degrees: mean (SD) | | | | | | | |
| TF joint line tenderness | 135.0 (10.7) | 134.2 (11.3) | 129.8 (14.1) | 125.9 (14.2) | 0.666 | <0.001 | <0.001 |
| Multiple tender points | 116 (49) | 87 (49) | 15 (50) | 158 (52) | 0.838 | 0.870 | 0.850 |
| Single-leg standing balance, secs | | | | | | | |
| 10-29 | 39 (17) | 27 (15) | 4 (13) | 52 (17) | 0.947 | 0.569 | 0.568 |
| 4-9 | 53 (27) | 49 (28) | 7 (23) | 60 (20) | | | |
| 0-3 | 63 (27) | 50 (28) | 6 (20) | 84 (28) | | | |
| | 37 (16) | 36 (20) | 5 (17) | 95 (20) | 0.394 | 0.430 | 0.371 |

†from binary logistic regression, adjusted for age, gender, and body mass index; ‡ pain, aching or stiffness on most days in past month; * item from WOMAC LK3.0, dichotomised at moderate or worse; § item from Chronic Pain Grade