

**TABLE E-1 Components of the Home Exercises, the Initial Exercise Dose, and Dose Progression at Six Weeks**

Component	Home Exercises*	Initial Exercise Dose*	Dose Progression at Six Weeks†
Warm-up	Brisk walking	Brisk walking for five minutes	Brisk walking for five minutes
Functional exercises	Sitting down and getting up from chair	Two sets of ten repeats, both hands for support	Two sets of fifteen repeats, semi-squat without support, with weighted backpack (up to 5 kg)
	Step-ups using a step or bounded telephone books	Two sets of ten repeats, support permitted	Two sets of fifteen repeats, with weighted backpack (up to 5 kg)
	Calf raises	Two sets of ten repeats, both hands for support	Two sets of fifteen repeats, single leg, light support with one hand
	Arm raises in standing	Two sets of fifteen repeats	Two sets of twenty repeats with free weights
	Standing knee flexion, and single-leg standing	One set of ten repeats	One set of fifteen each leg
	Standing hip extension, and single-leg standing	One set of ten repeats	One set of fifteen each leg
	Shoulder range of motion in standing	Two sets of fifteen repeats	Two sets of ten repeats with free weights
	Walking and/or stationary cycling	Ten minutes level ground walking and/or ten minutes cycling with no resistance	Twenty minutes of walking on hilly terrain and/or fifteen minutes of cycling with resistance
General aerobic exercise			
Cool-down	Quadriceps stretch, hamstrings stretch, calf stretch	Three times, fifteen seconds each leg	Three times, fifteen to thirty seconds each leg

\*These exercises were performed by all participants. †These exercises were performed by participants in the monitored home program.

**TABLE E-2 Baseline Characteristics of Participants**

Baseline Characteristics	One-to-One Therapy (N = 85)	Group-Based Therapy (N = 84)	Monitored Home Program (N = 80)
Age* (yr)	67 ± 9	68 ± 9	67 ± 8
Female sex (%)	68	60	61
BMI* (kg/m <sup>2</sup> )	33 ± 6	34 ± 6	32 ± 5
Osteoarthritis as the reason for surgery (%)	96	96	95
Comorbidities per Charlson Comorbidity Index* (points)	1 ± 1	1 ± 1	1 ± 1
Hypertension†	52 (65)	45 (56)	42 (53)
Cardiovascular disease†	15 (19)	15 (19)	16 (20)
Respiratory conditions†	27 (34)	18 (23)	13 (16)
Diabetes†	21 (26)	13 (16)	16 (20)
Renal conditions†	3 (4)	2 (3)	7 (9)
Presence of other musculoskeletal pain†			
Back pain	28 (33)	29 (35)	28 (35)
Other lower-limb joint pain	43 (51)	54 (64)	43 (54)
Outcomes‡			
Oxford Knee Score (points)	16 (11 to 21)	16 (11 to 23)	18 (11 to 23)
WOMAC Function (points)	114 (99 to 130)	110 (80 to 134)	105 (74 to 129)
WOMAC Pain (points)	30 (20 to 36)	20 (14 to 23)	28 (22 to 38)
Knee flexion (deg)	110 (96 to 122)	109 (90 to 118)	113 (98 to 123)
Knee extension (deg)	10 (5 to 15)	10 (5 to 13)	8 (5 to 13)
Quadriceps lag (deg)	2 (0 to 6)	3 (0 to 7)	4 (0 to 6)
SF-12 Physical (points)	29 (25 to 34)	31 (24 to 39)	30 (24 to 34)
SF-12 Mental (points)	45 (38 to 54)	42 (36 to 52)	51 (41 to 58)

\*The values are given as the mean and the standard deviation. †The values are given as the number of participants, with the percentage in parentheses. ‡The values are given as the median, with the interquartile range in parentheses.

**TABLE E-3 Repeated Measures Analysis for Primary and Secondary Outcomes**

Rehabilitation Mode	Outcomes*				
	OKS ( <i>points</i> )	WOMAC Function ( <i>points</i> )	WOMAC Pain ( <i>points</i> )	Knee Flexion ( <i>deg</i> )	Knee Extension† ( <i>deg</i> )
Monitored home program					
Preoperative measure	18 (11-23)	104.5 (74.1-128.7)	28.2 (22.0-37.5)	113 (98-123)	9 (5-13)
Week 2	—	78.7 (56.7-106.0)	20.1 (15.0-28.0)	77 (67-90)	13 (10-15)
Week 10	34 (28-40)	27.4 (11.3-55.3)	7.0 (3.4-13.6)	105 (95-119)	9 (6-15)
Week 26	38 (31-42)	24.0 (9.8-48.9)	6.1 (2.2-13.0)	112 (97-124)	7 (3-10)
Week 52	41 (34-45)	14.0 (2.8-36.1)	2.5 (0-9.5)	116 (103-125)	5 (0-8)
One-to-one therapy					
Preoperative measure	15 (11-21)	114.1 (98.6-129.5)	29.5 (20.0-36.3)	110 (96-122)	10 (5-15)
Week 2	—	92.6 (64.7-118.0)	22.0 (13.5-27.3)	78 (64-90)	11 (8-16)
Week 10	32 (27-38)	37.9 (22.8-65.2)	9.7 (4.43-16.03)	104 (92-112)	8 (3-13)
Week 26	38 (31-42)	22.6 (8.8-48.0)	5.0 (1.5-13.0)	111 (100-118)	5 (0-10)
Week 52	40 (33-42)	16.0 (8.4-41.2)	3.8 (0.5-9.6)	115 (105-122)	4 (0-8)
Group therapy					
Preoperative measure	16 (11-23)	110.2 (79.6-134.3)	31.8 (21.8-36.5)	109 (90-118.5)	10 (5-13)
Week 2	—	85.2 (64.1-105.0)	20.0 (14.0-23.6)	75 (61-90)	12 (8-17)
Week 10	36 (27-40)	29.0 (16.5-56.5)	9.4 (3.8-17.1)	103 (89-112)	9 (6-13)
Week 26	39 (31-44)	21.5 (2.1-45.8)	5.0 (0-12.1)	110 (97-117)	6 (2-10)
Week 52	43 (38-45)	13.0 (2.3-34.7)	1.6 (0-7.5)	110 (102-122)	4 (0-10)
P value‡	0.29	0.15	0.79	0.45	0.91

\*The values are given as the median, with the interquartile range in parentheses. †Values for extension refer to degrees short of full extension.  
‡The p value is for group-by-time interaction.

TABLE E-3 (continued)

Outcomes*					
Quadriceps Lag (deg)	Six-Minute Walk Distance (m)	Timed Stairs Ascent (sec)	Timed Stairs Descent (sec)	SF-12 Physical (points)	SF-12 Mental (points)
4 (0-6)	—	—	—	29.9 (24.1-34.1)	51.1 (41.3-57.6)
7 (2-12)	217.0 (150.0-300.0)	23.3 (15.6-33.1)	23.0 (15.6-33.0)	—	—
2 (0-4)	395.0 (310.4-471.3)	7.3 (5.8-9.6)	7.6 (6.0-12.4)	41.5 (36.0-47.8)	51.7 (46.1-60.3)
3 (0-4)	401.5 (350.0-487.5)	7.0 (5.0-8.4)	7.5 (5.6-11.6)	42.2 (35.4-49.8)	53.8 (44.5-60.3)
1 (0-5)	425.0 (360.5-490.0)	6.2 (5.4-8.6)	7.0 (7.2-9.7)	47.8 (36.8-51.3)	53.8 (47.8-60.0)
2 (0-6)	—	—	—	28.5 (25.3-34.3)	44.7 (37.7-54.3)
4 (2-8)	200.0 (138.0-268.0)	22.7 (18.0-29.2)	23.4 (17.4-31.5)	—	—
2 (0-5)	387.0 (325.0-458.0)	8.1 (6.4-11.9)	9.3 (6.7-15.2)	39.4 (33.2-44.9)	52.9 (42.7-60.1)
2 (0-4)	400.0 (342.50-466.8)	7.0 (5.8-8.7)	8.2 (5.6-12.3)	43.2 (35.9-47.0)	53.5 (45.5-59.5)
1 (0-4)	397.5 (325.0-482.6)	7.0 (5.8-9.2)	7.8 (5.9-13.9)	41.4 (32.6-47.1)	54.8 (43.7-59.5)
3 (0-7)	—	—	—	30.6 (23.9-39.2)	42.2 (36.3-52.0)
8 (4-13)	183.0 (128.0-250.0)	26.5 (18.1-38.2)	26.4 (17.8-35.0)	—	—
3 (0-5)	386.5 (325.0-446.3)	8 (6.7-10.4)	9.7 (6.8-13.5)	40.4 (35.5-48.6)	49.3 (42.1-58.3)
2 (0-5)	411 (325-486)	7.1 (6.2-10.3)	8.8 (5.5-11.9)	41.9 (36.3-49.1)	55.5 (44.8-61.9)
2 (0-4)	405.0 (329.8-475.0)	7.4 (5.8-9.5)	7.4 (5.1-10.5)	42.3 (35.4-51.3)	55.7 (46.7-60.9)
0.57	0.37	0.86	0.13	0.36	0.96

**TABLE E-4 Patient Satisfaction and Complications**

	One-to-One Therapy (N = 85)	Group-Based Therapy (N = 84)	Monitored Home Program (N = 80)	P Value
Patient satisfaction with treatment at ten weeks postoperatively				
Satisfaction with physiotherapy*	95 (85 to 100)	90 (80 to 95)	83.5 (49 to 95)	0.05
Frequency of physiotherapy reported as "insufficient"†	14	11	32	<0.01
Duration of physiotherapy reported as "just right"†	76	76	82	0.39
Patient satisfaction with recovery at fifty-two weeks postoperatively*	95 (80 to 100)	95 (90 to 100)	90 (80 to 100)	0.89
Complications‡				
Superficial wound infection	12 (14)	5 (6)	7 (8.8)	0.19
Major infection (requiring intravenous antibiotics and/or readmission)	3 (3.6)	0	0	0.05
Wound dehiscence	0 (0)	0 (0)	0 (0)	
Venous thrombotic embolism	2 (2.4)	1 (1.2)	2 (2.5)	0.80
Neurovascular	1 (1.2)	0 (0)	1 (1.3)	0.60
Total knee arthroplasty-related readmission	7 (8.4)	6 (7.2)	5 (6.3)	0.89
Manipulation under anesthetic	2 (2.4)	4 (4.8)	3 (3.8)	0.70
*The values are given as the median in percent, with the interquartile range in parentheses; the scale is from 0 to 100%. †The values are given as the percentage. ‡The values are given as the number of patients, with the percentage in parentheses.				