

Appendix



Health Questionnaire

English version for the UK

(Validated for Ireland)

By placing a tick in one box in each group below, please indicate which statements best describe your own health state today.

Mobility

- I have no problems in walking about ☐
- I have some problems in walking about ☐
- I am confined to bed ☐

Self-Care

- I have no problems with self-care ☐
- I have some problems washing or dressing myself ☐
- I am unable to wash or dress myself ☐

Usual Activities (e.g. work, study, housework, family or leisure activities)

- I have no problems with performing my usual activities ☐
- I have some problems with performing my usual activities ☐
- I am unable to perform my usual activities ☐

Pain / Discomfort

- I have no pain or discomfort ☐
- I have moderate pain or discomfort ☐
- I have extreme pain or discomfort ☐

Anxiety / Depression

- I am not anxious or depressed ☐
- I am moderately anxious or depressed ☐
- I am extremely anxious or depressed ☐

Fig. E-1
EQ-5D-3L questionnaire. (Reproduced with permission of the EuroQol Group.)

TABLE E-1 Quality of Life (EQ-5D Level)

Dimension & Level	No. of Patients		Relative Risk (95% CI)	P Value*	Fragility Index
	Screw Fixation	Hemiarthroplasty			
Mobility prefracture	109	105			
No problems	39	49	0.78 (0.55 to 1.06)	0.11	
Some problems	69	56	1.19 (0.94 to 1.49)	0.14	
Confined to bed	1	0	2.89 (0.11 to 70.18)	0.51	
Mobility 3 mo	95	96			
No problems	21	25	0.84 (0.51 to 1.41)	0.53	
Some problems	66	66	1.01 (0.84 to 1.22)	0.91	
Confined to bed	8	5	1.62 (0.55 to 4.76)	0.38	
Mobility 12 mo	83	84			
No problems	29	35	0.84 (0.57 to 1.24)	0.37	
Some problems	46	42	1.11 (0.83 to 1.48)	0.48	
Confined to bed	8	7	1.16 (0.44 to 3.05)	0.77	
Mobility 24 mo	70	76			
No problems	30	34	0.96 (0.66 to 1.38)	0.82	
Some problems	27	36	0.81 (0.56 to 1.19)	0.29	
Confined to bed	13	6	2.35 (0.95 to 5.85)	0.07	
Self-care prefracture	109	104			
No problems	57	69	0.79 (0.63 to 0.99)	0.04†	1
Some problems	37	28	1.26 (0.84 to 1.90)	0.27	
Unable to wash or dress	15	7	2.04 (0.87 to 4.81)	0.10	
Self-care 3 mo	95	96			
No problems	40	47	0.86 (0.63 to 1.17)	0.34	
Some problems	34	32	1.07 (0.73 to 1.59)	0.72	
Unable to wash or dress	21	17	1.25 (0.70 to 2.21)	0.45	
Self-care 12 mo	83	84			
No problems	40	52	0.78 (0.59 to 1.03)	0.08	
Some problems	24	22	1.10 (0.67 to 1.81)	0.69	
Unable to wash or dress	19	10	1.92 (0.95 to 3.88)	0.07	
Self-care 24 mo	70	76			
No problems	34	48	0.77 (0.57 to 1.03)	0.08	
Some problems	20	17	1.28 (0.73 to 2.23)	0.39	
Unable to wash or dress	16	11	1.58 (0.79 to 3.17)	0.20	
Usual activities prefracture	109	105			
No problems	37	52	0.69 (0.50 to 0.95)	0.02†	3
Some problems	45	39	1.11 (0.80 to 1.55)	0.54	
Unable to perform	27	14	1.18 (0.72 to 1.94)	0.51	
Usual activities 3 mo	95	96			
No problems	23	24	0.97 (0.59 to 1.59)	0.90	
Some problems	45	50	0.91 (0.68 to 1.21)	0.52	
Unable to perform	27	22	1.24 (0.76 to 2.01)	0.39	
Usual activities 12 mo	83	84			
No problems	25	31	0.82 (0.53 to 1.26)	0.36	
Some problems	33	40	0.83 (0.59 to 1.18)	0.31	
Unable to perform	25	13	1.95 (1.07 to 3.54)	0.03†	2
Usual activities 24 mo	70	76			
No problems	23	22	1.14 (0.70 to 1.85)	0.61	
Some problems	23	43	0.58 (0.39 to 0.86)	0.01†	5
Unable to perform	24	11	2.37 (1.25 to 4.47)	0.01†	4
Pain/discomfort prefracture	109	105			
No pain or discomfort	63	68	0.89 (0.72 to 1.11)	0.30	
Moderate pain or discomfort	43	32	1.29 (0.89 to 1.88)	0.17	
Extreme pain or discomfort	3	5	0.58 (0.14 to 2.36)	0.44	
Pain/discomfort 3 mo	95	96			
No pain or discomfort	31	31	1.01 (0.67 to 1.52)	0.96	
Moderate pain or discomfort	58	62	0.94 (0.76 to 1.18)	0.61	
Extreme pain or discomfort	6	3	2.02 (0.52 to 7.85)	0.31	

Pain/discomfort 12 mo	83	84			
No pain or discomfort	36	33	1.10 (0.77 to 1.59)	0.59	
Moderate pain or discomfort	45	50	0.91 (0.70 to 1.19)	0.49	
Extreme pain or discomfort	2	1	2.02 (0.19 to 21.90)	0.56	
Pain/discomfort 24 mo	70	75			
No pain or discomfort	30	33	0.97 (0.67 to 1.41)	0.89	
Moderate pain or discomfort	39	39	1.07 (0.79 to 1.45)	0.65	
Extreme pain or discomfort	1	3	0.36 (0.04 to 3.35)	0.37	
Anxiety/depression prefracture	108	105			
Not anxious or depressed	51	68	0.73 (0.57 to 0.93)	0.01†	5
Moderately anxious or depressed	47	31	1.47 (1.02 to 2.12)	0.04†	1
Extremely anxious or depressed	10	6	1.62 (0.61 to 4.30)	0.33	
Anxiety/depression 3 mo	95	96			
Not anxious or depressed	43	61	0.71 (0.55 to 0.93)	0.01†	4
Moderately anxious or depressed	46	31	1.50 (1.05 to 2.14)	0.03†	2
Extremely anxious or depressed	6	4	1.51 (0.44 to 5.20)	0.51	
Anxiety/depression 12 mo	83	84			
Not anxious or depressed	45	56	0.81 (0.63 to 1.04)	0.10	
Moderately anxious or depressed	32	24	1.18 (0.76 to 1.83)	0.46	
Extremely anxious or depressed	6	4	1.51 (0.44 to 5.18)	0.51	
Anxiety/depression 24 mo	70	74			
Not anxious or depressed	41	46	0.94 (0.72 to 1.23)	0.66	
Moderately anxious or depressed	27	26	1.10 (0.72 to 1.68)	0.67	
Extremely anxious or depressed	2	2	1.06 (0.15 to 7.30)	0.96	

*P value based on z-statistics. †Significant difference between groups.

TABLE E-2 Primary and Secondary Outcomes, Excluding the 35 Patients Who Underwent a Reoperation

Outcome Measure/Time Points	Screw Fixation		Hemiarthroplasty		Adjusted Mean Difference* (95% CI)	P Value
	No.	Mean $\pm$ SD	No.	Mean $\pm$ SD		
Hip function (HHS)						
Prefracture	82	80 $\pm$ 14	98	84 $\pm$ 16	-4 (-9 to 1)	0.134
3 mo	68	68 $\pm$ 17	91	68 $\pm$ 17	0.3 (-5 to 5)	0.922
12 mo	60	70 $\pm$ 20	79	75 $\pm$ 17	-6 (-11 to -1)	0.032†
24 mo	49	72 $\pm$ 19	72	76 $\pm$ 17	-6 (-12 to -1)	0.026†
Mobility (TUG)						
3 mo	53	25.7 $\pm$ 13.7	75	20.9 $\pm$ 11.9	4.6 (0.2 to 9.0)	0.042†
12 mo	37	23.7 $\pm$ 15.9	61	16.5 $\pm$ 9.1	7.8 (3.1 to 12.4)	0.001†
24 mo	29	22.0 $\pm$ 13.7	57	16.5 $\pm$ 9.5	9.2 (4.3 to 14.0)	<0.001†
Hip pain (PI-NRS)						
Prefracture	53	1.3 $\pm$ 2.3	77	1.1 $\pm$ 2.2	0.1 (-0.6 to 0.8)	0.769
3 mo	47	2.0 $\pm$ 2.0	74	2.2 $\pm$ 2.0	-0.2 (-0.9 to 0.5)	0.590
12 mo	36	1.6 $\pm$ 1.7	66	1.7 $\pm$ 2.0	0.04 (-0.7 to 0.8)	0.921
24 mo	31	1.4 $\pm$ 1.7	61	1.2 $\pm$ 1.7	0.4 (-0.5 to 1.2)	0.392
Quality of life (EQ-5D)						
Prefracture	81	0.59 $\pm$ 0.27	96	0.69 $\pm$ 0.28	-0.12 (-0.20 to -0.04)	0.003†
3 mo	68	0.52 $\pm$ 0.26	90	0.58 $\pm$ 0.28	-0.08 (-0.16 to 0.002)	0.056
12 mo	60	0.53 $\pm$ 0.31	79	0.64 $\pm$ 0.25	-0.14 (-0.23 to -0.06)	0.001†
24 mo	49	0.51 $\pm$ 0.33	71	0.65 $\pm$ 0.25	-0.18 (-0.27 to -0.09)	<0.001†

*Adjusted, using a linear mixed model, for possible correlations within trial centers, surgeons, and patients. †Significant difference between groups.

TABLE E-3 Primary and Secondary Outcomes, Adjusted for Age

Outcome Measure/Time Points	Screw Fixation		Hemiarthroplasty		Adjusted Mean Difference* (95% CI)	P Value
	No.	Mean $\pm$ SD	No.	Mean $\pm$ SD		
Hip function (HHS)						
Prefracture	109	81 $\pm$ 14	106	84 $\pm$ 16	-1 (-5 to 3)	0.482
3 mo	95	64 $\pm$ 19	97	67 $\pm$ 17	-3 (-7 to 1)	0.170
12 mo	83	71 $\pm$ 19	84	74 $\pm$ 19	-4 (-8 to 1)	0.095
24 mo	70	74 $\pm$ 19	76	76 $\pm$ 17	-2 (-7 to 3)	0.368
Mobility (TUG)						
3 mo	71	24.2 $\pm$ 12.7	79	21.5 $\pm$ 12.6	3.1 (-0.6 to 6.8)	0.097
12 mo	57	21.9 $\pm$ 14.2	63	16.6 $\pm$ 9.1	5.5 (1.6 to 9.4)	0.005†
24 mo	47	20.4 $\pm$ 12.8	59	16.6 $\pm$ 9.5	6.7 (2.7 to 10.7)	0.001†
Hip pain (PI-NRS)						
Prefracture	75	1.2 $\pm$ 2.2	83	1.1 $\pm$ 2.2	0.0 (-0.7 to 0.7)	0.987
3 mo	68	2.8 $\pm$ 2.4	80	2.4 $\pm$ 2.1	0.4 (-0.3 to 1.1)	0.230
12 mo	56	2.2 $\pm$ 2.2	69	1.7 $\pm$ 2.0	0.5 (-0.2 to 1.2)	0.174
24 mo	48	1.4 $\pm$ 1.9	63	1.2 $\pm$ 1.7	0.3 (-0.5 to 1.1)	0.444
Quality of life (EQ-5D)						
Prefracture	108	0.59 $\pm$ 0.26	104	0.69 $\pm$ 0.27	-0.12 (-0.19 to -0.05)	0.001†
3 mo	95	0.50 $\pm$ 0.26	96	0.57 $\pm$ 0.27	-0.09 (-0.16 to -0.02)	0.016†
12 mo	83	0.56 $\pm$ 0.30	84	0.63 $\pm$ 0.26	-0.11 (-0.18 to -0.04)	0.004†
24 mo	70	0.55 $\pm$ 0.32	73	0.65 $\pm$ 0.25	-0.13 (-0.21 to -0.05)	0.001†

*Adjusted, using a linear mixed model, for possible correlations within trial centers, surgeons, and patients. †Significant difference between groups.

TABLE E-4 Primary and Secondary Outcomes According to Sex

Outcome Measure/Time Points	Screw Fixation				Hemiarthroplasty			
	Women		Men		Women		Men	
	No.	Mean $\pm$ SD	No.	Mean $\pm$ SD	No.	Mean $\pm$ SD	No.	Mean $\pm$ SD
Hip function (HHS)								
Prefracture	83	81 $\pm$ 14	26	81 $\pm$ 14	71	83 $\pm$ 16	35	87 $\pm$ 15
3 mo	72	66 $\pm$ 18	23	59 $\pm$ 21	65	66 $\pm$ 18	32	69 $\pm$ 15
12 mo	67	71 $\pm$ 20	16	74 $\pm$ 12	56	75 $\pm$ 18	28	73 $\pm$ 20
24 mo	56	72 $\pm$ 18	14	81 $\pm$ 18	53	75 $\pm$ 18	23	76 $\pm$ 14
Mobility (TUG)								
3 mo	56	24.7 $\pm$ 13.3	15	22.3 $\pm$ 10.5	54	22.2 $\pm$ 12.5	25	19.9 $\pm$ 13.0
12 mo	45	22.4 $\pm$ 14.1	12	20.3 $\pm$ 14.8	41	16.0 $\pm$ 7.3	22	16.8 $\pm$ 11.9
24 mo	37	20.7 $\pm$ 12.7	10	19.5 $\pm$ 14.2	40	16.8 $\pm$ 9.5	19	16.1 $\pm$ 9.7
Hip pain (PI-NRS)								
Prefracture	57	1.3 $\pm$ 2.2	18	0.8 $\pm$ 2.0	54	1.3 $\pm$ 2.3	29	0.9 $\pm$ 1.9
3 mo	52	2.5 $\pm$ 2.2	16	3.8 $\pm$ 2.8	51	2.6 $\pm$ 2.1	29	2.1 $\pm$ 2.2
12 mo	44	2.1 $\pm$ 2.2	12	2.5 $\pm$ 2.1	46	1.7 $\pm$ 2.0	23	1.7 $\pm$ 2.0
24 mo	37	1.7 $\pm$ 2.0	11	0.5 $\pm$ 0.9	43	1.1 $\pm$ 1.5	20	1.6 $\pm$ 2.0
Quality of life (EQ-5D)								
Prefracture	82	0.59 $\pm$ 0.25	26	0.60 $\pm$ 0.28	70	0.68 $\pm$ 0.26	34	0.72 $\pm$ 0.29
3 mo	72	0.52 $\pm$ 0.26	23	0.44 $\pm$ 0.26	64	0.55 $\pm$ 0.27	32	0.61 $\pm$ 0.27
12 mo	67	0.55 $\pm$ 0.31	16	0.58 $\pm$ 0.25	57	0.63 $\pm$ 0.26	27	0.63 $\pm$ 0.27
24 mo	56	0.52 $\pm$ 0.31	14	0.65 $\pm$ 0.31	50	0.64 $\pm$ 0.25	23	0.66 $\pm$ 0.25