

Supplementary article data

Do different types of bearings and noise from total hip arthroplasty influence hip-related pain, function, and quality of life postoperatively?

A cross-sectional study from the Danish Hip Arthroplasty Registry

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Table 4. HOOS items for responders with ceramic-on-ceramic (CoC), metal-on-metal (MoM), or metal-on-polyethylene (MoP) total hip arthroplasties and comparison of the proportion of answered and unanswered items. Values are number and percentage of patients in each bearing group

	CoC n = 1,393	MoM n = 514	MoP n = 1,182	p-value
S1. Do you feel grinding, hear clicking or any other type of noise from your hip?				
Never	737 (53)	268 (52)	767 (65)	
Rarely	256 (18)	103 (20)	186 (16)	
Sometimes	252 (18)	104 (20)	139 (12)	
Often	99 (7)	24 (5)	51 (4)	
Always	35 (3)	10 (2)	22 (2)	
Missing	14 (1)	5 (1)	17 (1)	0.5
S2. Difficulties spreading legs wide apart				
None	886 (64)	343 (67)	769 (65)	
Mild	244 (17)	90 (18)	204 (17)	
Moderate	176 (13)	59 (11)	137 (11)	
Severe	43 (3)	11 (2)	44 (4)	
Extreme	23 (2)	6 (1)	10 (1)	
Missing	21 (1)	5 (1)	18 (2)	0.6
S3. Difficulties to stride out when walking				
None	990 (71)	381 (74)	869 (74)	
Mild	199 (14)	64 (12)	133 (11)	
Moderate	133 (10)	45 (9)	111 (9)	
Severe	39 (3)	14 (3)	40 (4)	
Extreme	16 (1)	6 (1)	13 (1)	
Missing	16 (1)	4 (1)	16 (1)	0.6
S4. How severe is your hip joint stiffness after first wakening in the morning?				
None	826 (59)	298 (58)	689 (59)	
Mild	357 (26)	134 (26)	298 (25)	
Moderate	124 (9)	46 (9)	110 (9)	
Severe	55 (4)	16 (3)	52 (4)	
Extreme	8 (0)	7 (1)	6 (1)	
Missing	23 (2)	13 (3)	27 (2)	0.4

S5. How severe is your hip stiffness after sitting, lying, or resting later in the day?				
None	808 (58)	309 (60)	684 (58)	
Mild	380 (28)	132 (25)	311 (26)	
Moderate	127 (9)	50 (10)	119 (10)	
Severe	58 (4)	15 (3)	48 (4)	
Extreme	4 (0)	3 (1)	3 (0)	
Missing	16 (1)	5 (1)	17 (2)	0.7
P1. How often is your hip painful?				
Never	824 (59)	305 (59)	702 (59)	
Monthly	203 (15)	83 (16)	163 (14)	
Weekly	106 (8)	50 (10)	84 (7)	
Daily	105 (7)	39 (8)	107 (9)	
Always	32 (2)	4 (1)	21 (2)	
Missing	123 (9)	33 (6)	105 (9)	0.2
P2. Straightening your hip fully				
None	1,082 (78)	405 (79)	922 (78)	
Mild	181 (13)	59 (11)	130 (11)	
Moderate	78 (5)	37 (7)	87 (8)	
Severe	24 (2)	4 (1)	16 (1)	
Extreme	2 (0)	3 (1)	3 (0)	
Missing	26 (2)	6 (1)	24 (2)	0.5
P3. Bending your hip fully				
None	953 (68)	357 (69)	804 (68)	
Mild	247 (18)	85 (17)	202 (17)	
Moderate	125 (9)	51 (10)	104 (9)	
Severe	33 (2)	9 (2)	36 (3)	
Extreme	7 (1)	5 (1)	12 (1)	
Missing	28 (2)	7 (1)	24 (2)	0.6
P4. Walking on a flat surface				
None	1,099 (79)	409 (80)	942 (80)	
Mild	146 (10)	58 (11)	118 (10)	
Moderate	95 (7)	31 (6)	79 (6)	
Severe	17 (1)	8 (2)	13 (1)	
Extreme	7 (1)	1 (0)	8 (1)	
Missing	29 (2)	7 (1)	22 (2)	0.6

P5. Going up or down stairs					A5. Bending to the floor/pick up an object				
None	831 (60)	320 (62)	714 (60)		None	750 (54)	274 (53)	641 (54)	
Mild	273 (19)	110 (21)	239 (20)		Mild	334 (24)	133 (26)	268 (23)	
Moderate	183 (13)	54 (11)	133 (11)		Moderate	175 (13)	67 (13)	139 (12)	
Severe	58 (4)	19 (4)	54 (5)		Severe	85 (6)	25 (5)	72 (6)	
Extreme	24 (2)	5 (1)	19 (2)		Extreme	35 (2)	11 (2)	43 (3)	
Missing	24 (2)	6 (1)	23 (2)	0.5	Missing	14 (1)	4 (1)	19 (2)	0.2
P6. At night while in bed					A6. Walking on a flat surface				
None	1,072 (77)	400 (78)	921 (78)		None	1,089 (78)	399 (78)	926 (78)	
Mild	158 (11)	62 (12)	131 (11)		Mild	171 (12)	70 (14)	144 (12)	
Moderate	103 (7)	36 (7)	76 (6)		Moderate	92 (7)	34 (6)	77 (7)	
Severe	30 (2)	8 (2)	25 (2)		Severe	23 (2)	7 (1)	11 (1)	
Extreme	7 (1)	2 (0)	11 (1)		Extreme	7 (0)	1 (0)	4 (0)	
Missing	23 (2)	6 (1)	18 (2)	0.8	Missing	11 (1)	3 (1)	20 (2)	0.04
P7. Sitting or lying					A7. Getting in/out of car				
None	991 (71)	385 (75)	866 (73)		None	743 (53)	300 (58)	636 (54)	
Mild	227 (16)	82 (16)	186 (16)		Mild	357 (25)	122 (24)	295 (25)	
Moderate	121 (9)	33 (6)	80 (7)		Moderate	191 (14)	61 (12)	151 (13)	
Severe	28 (2)	9 (2)	25 (2)		Severe	65 (5)	20 (4)	58 (5)	
Extreme	4 (0)	1 (0)	5 (0)		Extreme	25 (2)	8 (1)	24 (2)	
Missing	22 (2)	4 (1)	20 (2)	0.3	Missing	12 (1)	3 (1)	18 (1)	0.1
P8. Standing upright					A8. Going shopping				
None	926 (67)	356 (69)	815 (69)		None	1,004 (72)	380 (74)	864 (73)	
Mild	264 (19)	95 (19)	201 (17)		Mild	198 (14)	64 (12)	124 (10)	
Moderate	118 (8)	42 (8)	90 (7)		Moderate	113 (8)	47 (9)	113 (10)	
Severe	43 (3)	10 (2)	35 (3)		Severe	39 (3)	13 (3)	44 (4)	
Extreme	14 (1)	2 (0)	8 (1)		Extreme	23 (2)	3 (1)	14 (1)	
Missing	28 (2)	9 (2)	33 (3)	0.3	Missing	16 (1)	7 (1)	23 (2)	0.2
P9. Walking on a hard surface (asphalt, concrete etc.)					A9. Putting on socks/stockings				
None	972 (70)	357 (69)	823 (69)		None	713 (51)	265 (52)	611 (52)	
Mild	219 (16)	93 (18)	186 (16)		Mild	341 (24)	126 (24)	274 (23)	
Moderate	129 (9)	44 (9)	106 (9)		Moderate	195 (14)	68 (13)	134 (11)	
Severe	40 (3)	13 (3)	34 (3)		Severe	78 (6)	27 (5)	95 (8)	
Extreme	14 (1)	2 (0)	8 (1)		Extreme	49 (4)	17 (3)	49 (4)	
Missing	19 (1)	5 (1)	25 (2)	0.2	Missing	17 (1)	11 (2)	19 (2)	0.3
P10. Walking on an uneven surface					A10. Rising from bed				
None	787 (57)	300 (58)	662 (56)		None	1,032 (74)	374 (73)	847 (72)	
Mild	306 (22)	120 (24)	274 (23)		Mild	201 (14)	79 (15)	179 (15)	
Moderate	171 (12)	62 (12)	146 (13)		Moderate	117 (8)	40 (8)	101 (8)	
Severe	89 (6)	21 (4)	63 (5)		Severe	26 (2)	10 (2)	28 (2)	
Extreme	16 (1)	3 (1)	16 (1)		Extreme	7 (1)	5 (1)	9 (1)	
Missing	24 (2)	7 (1)	21 (2)	0.8	Missing	10 (1)	6 (1)	18 (2)	0.2
A1. Descending stairs					A11. Taking off socks/stockings				
None	916 (66)	371 (72)	803 (68)		None	780 (56)	300 (58)	680 (58)	
Mild	260 (19)	87 (17)	219 (18)		Mild	325 (23)	116 (23)	255 (21)	
Moderate	138 (10)	34 (6)	93 (8)		Moderate	186 (13)	61 (12)	128 (11)	
Severe	50 (3)	14 (3)	42 (4)		Severe	49 (4)	21 (4)	58 (5)	
Extreme	15 (1)	5 (1)	12 (1)		Extreme	40 (3)	12 (2)	42 (3)	
Missing	14 (1)	3 (1)	13 (1)	0.6	Missing	13 (1)	4 (1)	19 (2)	0.2
A2. Ascending stairs					A12. Lying in bed (turning over, maintaining hip position)				
None	840 (60)	334 (65)	730 (62)		None	836 (60)	321 (62)	720 (61)	
Mild	301 (22)	105 (20)	242 (20)		Mild	308 (22)	111 (22)	253 (22)	
Moderate	147 (10)	42 (8)	126 (11)		Moderate	156 (11)	52 (10)	122 (10)	
Severe	68 (5)	21 (4)	48 (4)		Severe	52 (4)	18 (3)	52 (4)	
Extreme	23 (2)	9 (2)	20 (2)		Extreme	17 (1)	3 (1)	14 (1)	
Missing	14 (1)	3 (1)	16 (1)	0.4	Missing	24 (2)	9 (2)	21 (2)	1.0
A3. Rising from sitting					A13. Getting in/out of bath				
None	892 (64)	330 (64)	757 (64)		None	1,038 (74)	378 (74)	880 (75)	
Mild	281 (20)	113 (22)	251 (21)		Mild	181 (13)	71 (14)	153 (13)	
Moderate	142 (10)	44 (8)	100 (9)		Moderate	89 (6)	38 (7)	63 (5)	
Severe	55 (4)	21 (4)	51 (4)		Severe	21 (2)	6 (1)	24 (2)	
Extreme	9 (1)	3 (1)	9 (1)		Extreme	7 (1)	4 (1)	13 (1)	
Missing	14 (1)	3 (1)	14 (1)	0.5	Missing	57 (4)	17 (3)	49 (4)	0.7
A4. Standing					A14. Sitting				
None	939 (67)	360 (70)	830 (70)		None	1,027 (74)	384 (75)	871 (74)	
Mild	260 (19)	91 (18)	190 (16)		Mild	220 (16)	77 (15)	186 (16)	
Moderate	115 (8)	44 (8)	97 (8)		Moderate	97 (7)	34 (6)	78 (6)	
Severe	48 (4)	14 (3)	34 (3)		Severe	24 (2)	9 (2)	22 (2)	
Extreme	17 (1)	2 (0)	14 (1)		Extreme	8 (0)	1 (0)	2 (0)	
Missing	14 (1)	3 (1)	17 (2)	0.3	Missing	17 (1)	9 (2)	23 (2)	0.3

A15. Getting on/off toilet				
None	991 (71)	363 (71)	836 (71)	
Mild	225 (16)	84 (16)	199 (17)	
Moderate	120 (9)	38 (7)	94 (8)	
Severe	28 (2)	19 (4)	29 (2)	
Extreme	10 (1)	2 (0)	6 (0)	
Missing	19 (1)	8 (2)	18 (2)	0.9
A16. Heavy domestic duties (moving heavy boxes, scrubbing floors, etc.)				
None	602 (43)	231 (45)	513 (43)	
Mild	346 (25)	116 (22)	274 (23)	
Moderate	195 (14)	75 (15)	174 (15)	
Severe	107 (8)	31 (6)	91 (8)	
Extreme	67 (5)	24 (5)	59 (5)	
Missing	76 (5)	37 (7)	71 (6)	0.4
A17. Light domestic duties (cooking, dusting, etc.)				
None	1,050 (75)	385 (75)	892 (75)	
Mild	175 (13)	65 (13)	141 (12)	
Moderate	109 (8)	42 (8)	107 (9)	
Severe	21 (2)	8 (1)	10 (1)	
Extreme	7 (0)	3 (1)	9 (1)	
Missing	31 (2)	11 (2)	23 (2)	0.9
SP1. Squatting				
None	562 (40)	205 (40)	474 (40)	
Mild	258 (19)	123 (24)	224 (19)	
Moderate	213 (15)	79 (15)	135 (11)	
Severe	160 (12)	53 (11)	144 (12)	
Extreme	159 (11)	42 (8)	161 (14)	
Missing	41 (3)	12 (2)	44 (4)	0.3
SP2. Running				
None	455 (33)	171 (33)	368 (31)	
Mild	221 (16)	101 (20)	209 (18)	
Moderate	242 (17)	98 (19)	185 (16)	
Severe	187 (13)	57 (11)	159 (13)	
Extreme	231 (17)	66 (13)	199 (17)	
Missing	57 (4)	21 (4)	62 (5)	0.3
SP3. Twisting/pivoting on loaded leg				
None	769 (55)	313 (61)	641 (54)	
Mild	252 (18)	77 (15)	205 (17)	
Moderate	170 (12)	70 (13)	147 (13)	
Severe	93 (7)	19 (4)	86 (7)	
Extreme	71 (5)	25 (5)	68 (6)	
Missing	38 (3)	10 (2)	35 (3)	0.5
SP4. Walking on uneven surface				
None	767 (55)	304 (59)	655 (55)	
Mild	326 (23)	111 (22)	239 (20)	
Moderate	151 (11)	56 (11)	162 (14)	
Severe	85 (6)	26 (5)	65 (6)	
Extreme	39 (3)	9 (2)	33 (3)	
Missing	25 (2)	8 (1)	28 (2)	0.4
Q1. How often are you aware of your hip problem?				
Never	651 (47)	224 (44)	592 (50)	
Monthly	251 (18)	117 (23)	182 (16)	
Weekly	145 (10)	55 (11)	105 (9)	
Daily	247 (18)	95 (18)	205 (17)	
Constantly	77 (5)	17 (3)	70 (6)	
Missing	22 (2)	6 (1)	28 (2)	0.2
Q2. Have you modified your lifestyle to avoid activities potentially damaging to your hip?				
Not at all	595 (43)	214 (41)	498 (42)	
Mildly	411 (29)	164 (32)	375 (32)	
Moderately	185 (13)	61 (12)	126 (11)	
Severely	147 (11)	60 (12)	135 (11)	
Totally	38 (3)	10 (2)	29 (2)	
Missing	17 (1)	5 (1)	19 (2)	0.5
Q3. How much are you troubled with lack of confidence in your hip?				
Not at all	820 (59)	294 (57)	714 (60)	
Mildly	352 (25)	149 (29)	284 (24)	
Moderately	111 (8)	40 (8)	86 (7)	
Severely	76 (6)	22 (4)	67 (6)	
Extremely	19 (1)	5 (1)	18 (2)	
Missing	15 (1)	4 (1)	13 (1)	0.8

Q4. In general, how much difficulty do you have with your hip?

None	669 (48)	244 (48)	605 (51)	
Mild	431 (31)	170 (33)	332 (28)	
Moderate	193 (14)	69 (13)	160 (14)	
Severe	58 (4)	21 (4)	52 (4)	
Extreme	28 (2)	7 (1)	19 (2)	
Missing	14 (1)	3 (1)	14 (1)	0.5

Table 5. EQ-5D dimensions and EQ VAS for responders with ceramic-on-ceramic (CoC), metal-on-metal (MoM), or metal-on-polyethylene (MoP) total hip arthroplasties and comparison of the proportion of answered and unanswered items. Values are number and percentage of patients in each bearing group

	CoC n = 1,393	MoM n = 512	MoP n = 1,177	p-value
EQ-5D index				
Mobility				
No problems	1,085 (78)	419 (82)	938 (79)	
Some problems	284 (20)	88 (17)	225 (19)	
Confined to bed	2 (0)	1 (0)	6 (1)	
Missing	22 (2)	6 (1)	13 (1)	0.5
Self-care				
No problems	1,213 (87)	452 (88)	1,021 (86)	
Some problems	153 (11)	52 (10)	138 (12)	
Unable	4 (0)	3 (1)	9 (1)	
Missing	23 (2)	7 (1)	14 (1)	0.6
Usual activities				
No problems	927 (66)	351 (68)	802 (68)	
Some problems	404 (29)	142 (27)	323 (27)	
Unable	36 (3)	13 (3)	44 (4)	
Missing	26 (2)	8 (2)	13 (1)	0.3
Pain/Discomfort				
None	899 (65)	327 (63)	745 (63)	
Moderate	434 (31)	168 (33)	401 (34)	
Extreme	35 (2)	10 (2)	25 (2)	
Missing	25 (2)	9 (2)	11 (1)	0.2
Anxiety/Depression				
None	1,198 (86)	433 (84)	1,015 (86)	
Moderate	154 (11)	66 (13)	140 (12)	
Extreme	10 (1)	7 (1)	8 (1)	
Missing	31 (2)	8 (2)	19 (1)	0.4
EQ VAS				
0	12 (1)	8 (2)	9 (1)	
1–25	20 (1)	5 (1)	17 (1)	
26–50	153 (11)	38 (7)	137 (12)	
51–75	282 (20)	124 (24)	292 (25)	
75–99	710 (51)	267 (52)	556 (47)	
100	134 (10)	44 (9)	106 (9)	
Missing	82 (6)	28 (5)	65 (5)	0.9

Table 6. UCLA activity score for responders with ceramic-on-ceramic (CoC), metal-on-metal (MoM), or metal-on-polyethylene (MoP) total hip arthroplasties and comparison of the proportion of answered and unanswered items. Values are number and percentage of patients in each bearing group. P-value = 0.2

	CoC n = 1,393	MoM n = 512	MoP n = 1,177
1. Wholly inactive: dependent on others; cannot leave residence	3 (0)	0 (0)	3 (0)
2. Mostly inactive: restricted to minimal activities of daily living	23 (2)	5 (1)	17 (1)
3. Sometimes participate in mild activities, such as walking, limited housework, and limited shopping	98 (7)	39 (8)	113 (10)
4. Regularly participate in mild activities	144 (10)	49 (9)	149 (13)
5. Sometimes participate in moderate activities, such as swimming and unlimited housework or shopping	166 (12)	50 (10)	156 (13)
6. Regularly participate in moderate activities	225 (16)	87 (17)	185 (16)
7. Regularly participate in active events, such as bicycling	369 (27)	128 (25)	284 (24)
8. Regularly participate in very active events, such as golf	87 (6)	37 (7)	59 (5)
9. Sometimes participate in impact sports such as jogging, tennis, skiing, acrobatics, ballet, heavy labor, or backpacking	127 (9)	62 (12)	92 (8)
10. Regularly participate in impact sports	119 (9)	52 (10)	100 (8)
Missing ^a	32 (2)	5 (1)	24 (2)

^a P-value 0.2

Table 7. Distribution of discarded subscale scores and BMI due to missing items for patients with ceramic-on-ceramic (CoC), metal-on-metal (MoM), or metal-on-polyethylene (MoP) total hip arthroplasties and comparison of the proportion of kept and discarded subscales and BMI. Values are number and percentage of patients in each bearing group

	CoC	MoM	MoP	p-value
HOOS Symptoms	14 (1)	4 (1)	15 (1)	0.6
HOOS Pain	19 (1)	4 (1)	16 (1)	0.6
HOOS ADL	10 (1)	3 (1)	11 (1)	0.7
HOOS Sport	28 (2)	7 (1)	28 (2)	0.4
HOOS QoL	12 (1)	3 (1)	14 (1)	0.5
EQ-5D index	37 (3)	11 (2)	24 (2)	0.6
EQ VAS	82 (6)	28 (5)	65 (6)	0.9
UCLA activity score	32 (2)	5 (1)	24 (2)	0.2
BMI	41 (3)	16 (3)	38 (3)	0.9

Table 8. Association between patients with total hip arthroplasties with ceramic-on-ceramic (CoC), metal-on-metal (MoM), or metal-on-polyethylene (MoP) bearings, mean values, and mean differences in PROM subscale scores, with 95% confidence intervals in parentheses

		CoC	MoM	MoP
HOOS Symptoms				
Mean	Crude	84.4 (83.5–85.3)	85.2 (83.8–86.7)	85.9 (84.9–86.9)
	Adjusted	78.2 (56.3–100.2)	79.2 (56.6–101.7)	80.6 (58.2–102.9)
Mean difference	Crude	-1.51 (-2.82 to -0.20)	-0.68 (-2.49 to 1.13)	0 (ref.)
	Adjusted	-2.31 (-4.10 to -0.52)	-1.40 (-3.60 to 0.79)	0 (ref.)
HOOS Pain				
Mean	Crude	88.4 (87.4–89.5)	89.3 (87.8–90.8)	88.7 (87.7–89.7)
	Adjusted	78.1 (55.1–101.0)	79.0 (55.8–102.3)	78.8 (55.4–102.1)
Mean difference	Crude	-0.22 (-1.64 to 1.20)	0.62 (-1.22 to 2.46)	0 (ref.)
	Adjusted	-0.70 (-2.34 to 0.94)	0.29 (-2.05 to 2.63)	0 (ref.)
HOOS ADL				
Mean	Crude	85.0 (83.9–86.0)	86.3 (84.6–88.0)	85.2 (84.1–86.2)
	Adjusted	83.7 (58.5–108.8)	83.9 (59.0–108.9)	84.7 (59.2–110.2)
Mean difference	Crude	-0.20 (-1.67 to 1.26)	1.14 (-0.77 to 3.05)	0 (ref.)
	Adjusted	-1.04 (-2.93 to 0.85)	-0.80 (-3.39 to 1.80)	0 (ref.)
HOOS Sport				
Mean	Crude	71.5 (70.1–72.9)	74.5 (72.1–76.9)	70.9 (69.2–72.6)
	Adjusted	75.6 (42.6–108.6)	75.6 (42.7–108.4)	76.4 (43.1–109.7)
Mean difference	Crude	0.64 (-1.53 to 2.82)	3.63 (0.74–6.51)	0 (ref.)
	Adjusted	-0.74 (-3.41 to 1.92)	-0.79 (-4.93 to 3.36)	0 (ref.)
HOOS QoL				
Mean	Crude	77.5 (76.2–78.8)	77.9 (76.1–79.7)	78.2 (76.8–79.6)
	Adjusted	55.9 (26.8–85.0)	55.8 (27.2–85.6)	56.4 (27.2–85.6)
Mean difference	Crude	-0.70 (-2.57 to 1.17)	-0.30 (-2.66 to 2.06)	0 (ref.)
	Adjusted	-0.52 (-2.87 to 1.83)	-0.56 (-4.26 to 3.13)	0 (ref.)
EQ-5D index				
Mean	Crude	0.872 (0.864–0.880)	0.870 (0.856–0.884)	0.865 (0.855–0.876)
	Adjusted	0.797 (0.542–1.052)	0.787 (0.528–1.047)	0.797 (0.540–1.053)
Mean difference	Crude	0.006 (-0.006 to 0.019)	0.005 (-0.013 to 0.022)	0 (ref.)
	Adjusted	0.000 (-0.015 to 0.015)	-0.009 (-0.036 to 0.018)	0 (ref.)
EQ VAS				
Mean	Crude	77.6 (76.5–78.7)	77.9 (76.2–79.7)	76.4 (75.2–77.6)
	Adjusted	64.2 (38.9–89.4)	62.6 (36.9–88.2)	64.4 (39.3–89.5)
Mean difference	Crude	1.20 (-0.31 to 2.71)	1.49 (-0.64 to 3.62)	0 (ref.)
	Adjusted	-0.09 (-1.85 to 1.45)	-1.83 (-4.84 to 1.18)	0 (ref.)
UCLA activity score				
Mean	Crude	6.40 (6.30–6.50)	6.61 (6.45–6.77)	6.17 (6.07–6.28)
	Adjusted	6.01 (3.56–8.47)	5.88 (3.47–8.29)	5.91 (3.44–8.38)
Mean difference	Crude	0.22 (0.08–0.37)	0.44 (0.25–0.62)	0 (ref.)
	Adjusted	0.10 (-0.07 to 0.28)	-0.03 (-0.30 to 0.24)	0 (ref.)

Table 10. Association between experiencing of noise from total hip arthroplasty (THA) with ceramic-on-ceramic (CoC), metal-on-metal (MoM), or metal-on-polyethylene (MoP) bearings, mean values, and mean differences (Diff.) in PROM subscale scores, with 95% confidence intervals in parentheses

	Noise experienced from THA			No noise experienced from THA		
	CoC	MoM	MoP	CoC	MoM	MoP
HOOS Symptoms						
Mean	Crude 75.5 (73.6–77.5)	77.0 (73.3–80.6)	71.6 (68.0–75.2)	88.1 (87.1–89.2)	89.4 (87.8–91.0)	88.4 (87.4–89.3)
	Adjusted 72.5 (51.0–94.0)	74.1 (51.9–96.3)	70.1 (48.6–91.5)	84.7 (63.5–106)	85.9 (63.9–108)	86.1 (64.8–107)
Diff.	Crude -12.9	-11.4	-16.8	-0.25	1.03	0 (ref.)
	(-14.9 to -10.8)	(-15.2 to -7.65)	(-20.6 to -13.0)	(-1.57 to 1.08)	(-0.89 to 2.94)	
	Adjusted -13.6	-12.0	-16.1	-1.39	-0.24	0 (ref.)
	(-15.8 to -11.4)	(-16.2 to -7.83)	(-20.0 to -12.2)	(-3.07 to 0.28)	(-3.20 to 2.72)	
HOOS Pain						
Mean	Crude 83.4 (81.6–85.2)	85.6 (82.5–88.8)	76.7 (72.6–80.8)	90.8 (89.7–91.9)	91.3 (89.7–92.9)	90.7 (89.9–91.6)
	Adjusted 73.7 (51.5–96.0)	76.4 (54.5–98.3)	68.1 (45.3–90.9)	80.8 (58.8–103)	81.5 (59.2–104)	81.5 (59.4–104)
Diff.	Crude -7.33	-5.11	-14.0	0.04	0.56	0 (ref.)
	(-9.21 to -5.45)	(-8.31 to -1.90)	(-18.1 to -9.97)	(-1.29 to 1.37)	(-1.32 to 2.45)	
	Adjusted -7.79	-5.11	-13.4	-0.71	-0.04	0 (ref.)
	(-10.0 to -5.59)	(-8.56 to -1.67)	(-17.5 to -9.37)	(-2.33 to 0.91)	(-2.56 to 2.48)	
HOOS ADL						
Mean	Crude 80.2 (78.1–82.2)	81.9 (78.5–85.4)	73.2 (69.5–77.0)	87.3 (86.2–88.4)	88.8 (87.1–90.6)	87.4 (86.4–88.5)
	Adjusted 77.2 (53.6–100)	78.0 (54.5–102)	72.0 (48.2–95.8)	84.4 (61.1–108)	84.9 (61.0–109)	85.6 (62.1–109)
Diff.	Crude -7.29	-5.52	-14.2	-0.13	1.38	0 (ref.)
	(-9.63 to -4.95)	(-9.19 to -1.84)	(-18.3 to -10.1)	(-1.60 to 1.33)	(-0.55 to 3.30)	
	Adjusted -8.53	-7.58	-13.6	-1.14	-0.66	0 (ref.)
	(-11.2 to -5.89)	(-11.8 to -3.40)	(-17.9 to -9.27)	(-3.01 to 0.73)	(-3.48 to 2.15)	
HOOS Sport						
Mean	Crude 64.6 (61.4–67.8)	66.9 (62.4–71.3)	52.8 (47.3–58.3)	74.9 (73.3–76.5)	78.4 (75.5–81.2)	74.0 (72.2–75.8)
	Adjusted 67.0 (35.6–98.3)	66.7 (35.0–98.4)	58.7 (27.0–90.3)	77.5 (46.5–109)	78.4 (46.8–110)	78.3 (47.2–109)
Diff.	Crude -9.45	-7.16	-21.2	0.88	4.36	0 (ref.)
	(-13.0 to -5.94)	(-11.8 to -2.47)	(-26.9 to -15.5)	(-1.47 to 3.23)	(0.95 to 7.77)	
	Adjusted -11.3	-11.6	-19.7	-0.79	0.13	0 (ref.)
	(-15.6 to -7.13)	(-17.8 to -5.44)	(-25.4 to -13.9)	(-3.34 to 1.76)	(-4.23 to 4.49)	
HOOS QoL						
Mean	Crude 69.0 (66.3 to 71.8)	68.9 (64.6 to 73.2)	61.1 (56.6 to 65.6)	81.1 (79.7 to 82.6)	82.3 (80.2 to 84.4)	81.2 (79.9 to 82.5)
	Adjusted 49.6 (18.3 to 80.9)	49.2 (17.3 to 81.1)	42.3 (10.7 to 73.9)	61.1 (30.1 to 93.1)	61.6 (30.1 to 93.1)	61.4 (30.2 to 92.6)
Diff.	Crude -12.1	-12.3	-20.1	-0.06	1.13	0 (ref.)
	(-15.0 to -9.24)	(-16.8 to -7.76)	(-24.6 to -15.5)	(-1.74 to -1.61)	(-1.28 to -3.53)	
	Adjusted -11.8	-12.2	-19.1	-0.27	0.18	0 (ref.)
	(-14.7 to -8.94)	(-17.3 to -7.10)	(-24.0 to -14.3)	(-2.36 to 1.82)	(-4.01 to 4.37)	
EQ-5D index						
Mean	Crude 0.825 (0.800–0.850)	0.816 (0.786–0.847)	0.771 (0.741–0.801)	0.892 (0.881–0.902)	0.894 (0.878–0.910)	0.883 (0.872–0.895)
	Adjusted 0.739 (0.488–0.989)	0.727 (0.484–0.970)	0.692 (0.446–0.938)	0.801 (0.554–1.049)	0.796 (0.546–1.045)	0.800 (0.549–1.052)
Diff.	Crude -0.059	-0.067	-0.113	0.008	0.011	0 (ref.)
	(-0.085 to -0.032)	(-0.100 to -0.034)	(-0.144 to -0.081)	(-0.008 to 0.024)	(-0.009 to 0.030)	
	Adjusted -0.061	-0.073	-0.108	0.001	-0.005	0 (ref.)
	(-0.088 to -0.035)	(-0.117 to -0.030)	(-0.137 to -0.079)	(-0.016 to 0.019)	(-0.033 to 0.024)	
EQ VAS						
Mean	Crude 74.7 (72.5–76.9)	75.0 (71.3–78.6)	67.9 (63.7–71.9)	79.0 (77.7–80.2)	79.3 (77.2–81.3)	77.8 (76.5–79.1)
	Adjusted 60.7 (37.2–84.3)	59.0 (34.3–83.7)	55.9 (31.0–80.7)	64.9 (41.0–88.8)	63.7 (39.4–88.1)	65.3 (41.4–89.2)
Diff.	Crude -3.07	-2.81	-9.99	1.19	1.49	0 (ref.)
	(-5.80 to -0.38)	(-6.63 to 1.01)	(-14.5 to -5.51)	(-0.75 to 3.13)	(-0.98 to 3.96)	
	Adjusted -4.56	-6.29	-9.44	-0.40	-1.56	0 (ref.)
	(-7.20 to -1.92)	(-9.72 to -2.87)	(-13.5 to -5.38)	(-2.38 to 1.58)	(-4.66 to 1.54)	
UCLA activity score						
Mean	Crude 6.34 (6.11–6.57)	6.41 (6.10–6.73)	5.73 (5.40–6.06)	6.43 (6.31–6.56)	6.68 (6.45–6.92)	6.26 (6.13–6.39)
	Adjusted 5.75 (3.51–7.99)	5.43 (3.12–7.74)	5.30 (3.07–7.54)	5.90 (3.70–8.10)	5.79 (3.51–8.08)	5.87 (3.66–8.07)
Diff.	Crude 0.08	0.16	-0.53	0.17	0.42	0 (ref.)
	(-0.20 to 0.35)	(-0.16 to 0.47)	(-0.89 to -0.17)	(-0.02 to 0.36)	(0.16 to 0.68)	
	Adjusted -0.12	-0.44	-0.56	0.03	-0.08	0 (ref.)
	(-0.38 to 0.15)	(-0.88 to 0.00)	(-0.88 to -0.25)	(-0.16 to 0.22)	(-0.41 to 0.26)	