Patient Reported Outcomes Associated With &Idquo; Completely Better" Status After Hip Arthroscopy

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INTRODUCTION:

Contextualizing patient-reported outcomes (PROs) can help to differentiate meaningful outcomes. Measures such as patient acceptable symptom state and minimum clinically important difference have been investigated in recent years. Assessment of patients' perception of being "completely better" (CB) after hip arthroscopy has not been investigated and may be of particular value. The purpose of this study was to assess the rate of patient-reported CB status after hip arthroscopy and determine associations with PROs.

METHODS:

An orthopaedic registry at a single institution was retrospectively analyzed. All patients who underwent hip arthroscopy from 2015 to 2020, and had 2 year follow up data were included in this study. Patients were administered Patient-Reported Outcomes Measurement Information System (PROMIS) in six domains, Numeric Pain Score, and Surgical Satisfaction Questionnaire (SSQ8) pre-operatively and at 2 years postoperatively. Patients completed a CB anchor question at 2 years after surgery. Threshold values for PRO scores associated with achieving a CB status were identified with approximately 90% specificity.

RESULTS:

Overall, 29 of the 62 patients (46.8%) reported their condition CB at 2 years postoperatively. There were no differences in demographics including age, sex, BMI, race, prior hip surgery, pre-op narcotic use, or smoking status between the CB and non-CB groups (Table 1). The 2-year and change in PROMIS Physical Function, PROMIS Pain Interference, Social Satisfaction, Fatigue, and Anxiety, and SSQ8 PROs were significantly better in the CB group than in the non-CB group (Table 2). Numeric Pain Score in the operative hip was significantly better at 2 years in the CB group. There were no differences in pre-treatment expectations between groups. Thresholds of 2-year PROMIS PF \geq 51.3, change in PROMIS PF \geq 12, 2-year PROMIS PI \leq 46.6, change in PROMIS PI \leq -12.2, 2-year Numeric Pain Score – operative hip \leq 1.0, and 2-year SSQ8 \geq 87.5 were the best predictors of achieving CB status (Table 3). DISCUSSION AND CONCLUSION:

Nearly half of patients reported being completely better 2 years following hip arthroscopy. Multiple PROs including physical function, pain, and satisfaction were significant predictors of CB status. This is the first study to assess CB status 2 years after hip arthroscopy and provides contextualization to PROs for orthopaedic surgeons and researchers.

Table 1 Denographic Characteristics to CB st. Continuous Modelles	Total (N-62) Mean (SD	"Tex" (N-28) Mose £50	'No' (N-SS) Mean £50	Finite
Ass	29.6 x 12.4	29 2 13.6	46.2 113.6	0.79
Rody Mass Index BMII	27.4 ± 3.4	27:145	27.8 2 5.8	9.55
Charbon Comorbidity Index (CC)	98:11	0.8111	60210	9.81
E Pror Hip Surgenes	931994	0.2 ± 0.5	81:03	0.60
Prior Orthopsedic Procedures	13:26	09:11	17:54	0.95
# Prior Any Surgeries	52157	31+31	33143	0.90
Corresponded Wardebles	Xotol H (N)	767	765	Freduc
Sex	N/O	V (50	m/si	
Male	18 (79.0)	4 (5.5)	9045	9.25
Female	49 (21.0)	25 (48.3)	24 (88.7)	0.15
Race Other	400	100	0.00	
Asien	2 (5.2)	1(1.6)	10.6	0.35
Box	4 (6.5)	0 (0.0)	4 (6.5)	
Marie	M(90.0)	28 (45.2)	28 (49.2)	
Ethnicity				
Hispanic or Latino	2 (5.3)	1(1.6)	1(16)	1.0
MOT Hispanic or Latino	59:06.71	28 (45.9)	31,50.8	
Prior Hip Sergery No.	52 (85.3)	25 (60 7)	28 (86.7)	
THE	50 (88.0) 7 (11.7)	416.71	26(46.7)	0.70
History of Clinical Degression or Ansiety	r (an-f)	1(9.7)	#1A.05	
No.	94 (72.5)	18 (28.2)	36-04-0	
fer.	18 (27.7)	6 (12.8)	7/349	0.68
ASA (American Society of American Society)				
Score	21/0125	12 (187)	11 (16 (6	
		17 (27.9)	20 (32.8)	9.17
4	17 (80.7) 1 (1.6)	17 (27.9) 0 (0.0)	1(14)	
research .	*(**)	v(3.0)	4144	
Covernment	11 (17.7)	518.0	6(87)	
Private	51 (82.5)	24 (38.7)	27 (43.6)	0.82
Preoperative narrantic soage?				
No	\$1 (82.3)	28 (32.1)	28 (49.2)	0.74
Tes	11 (17.7)	6 (9.7)	5 (8.1)	0.34
Edworten				
College education	47 (81.9)	28 (45.1)	24 (42.9)	
High School Graduate	4(7.3)	2 (3.6)	2 (3.6)	0.45
Less then High School	5 (8.9)	10.0	4(7.1)	
Markel Status		11/25/01	12/2110	0.844
Single	20 (52.6)	9115.61	18(21.0)	3,844
Married or domestic Use with contribute?	27 (47.4)	9 (15.8)	28 (21.6)	
Ne with circlate?	4(7.0)	1(5.0)	108	0.74
No.	4 (7.8) 53 (83.0)	26 (83.1)	29,50.9	
Tes Employment steps	84 (84 O)	14141.11	DUN	
Employed/Served	41/212	29 (55.7)	21 07 5	
Employed/Retired	41/01/25	1(3.6)	# (38.7)	0.29
Unglis to work	1(1.6)	210.0	1(18)	
Unemplaced	5 (5.5)	4(7.3)	108	
Annual income	799.0		2,249	
×679.000	17.000	15 (28.5)	17 (92.1)	0.46
-\$19.00E	21 (29 6)	12 (22.6)	9(37.0)	
Legal claim filed?				
No	55 (56.5)	27 (47.4)	28 (49.1)	0.49
Tel	2 (3.5)	0 (0.0)	2(85)	
Smoking status				
Delly	5 (9.2)	10.0	40.8	
New	45 (81.8)	22 (48.0)	25 (41.5)	0.39
DWIT	5 (9.2)	1(5.0)	2 (3.6)	
Alcohol status				
of times per manth.	26 (46.4)	9 (16.1)	17 (30.4)	
14 times per month. Never	20 (35.7) 10 (37.9)	13 (23.2) 5 (8.8)	7 (12.5) 5 (8.9)	0.12
Recreational drug status	ACTA P			
No.	55 (76.5)	29 (15,6)	29.00.00	1.0

	"Yes" p=29	"No" n=31	P Value
PROMIS PF	"Yes" n=29	"No" n=33	P Value
Pre-operative	39.7+64	41.6+4.0	0.29
		41.6 T 4.0 45.7 ± 6.1	
2 y	56.3 ± 8.5	45.7±6.1 4.1+5.9	<0.000
Change PROMIS PI	16.6 2 9.9	4.115.9	<0.000
PRUMIS PI Pre-coerative	53.2 ± 10.1	522+92	0.99
2 v	53.2 T 10.1 44 R + 7.2	55.5 I 9.5 55.9 + 6.7	-0.000
Change	-17.2 ± 10.8	-4.15 ± 6.2	<0.000
PROMIS Fatigue			
Pre-operative	62.1 ± 6.5	60.0±5.6	0.19
2 y	42.6 ± 9.3	50.3 ± 8.4	0.001
Change	-11.0 ± 9.5	-3.3 ± 7.6	0.002
PROMIS SS			
Pre-operative	42.4 ± 7.0	41.9 ± 6.7	0.95
2 y	57.9 ± 11.0	47.5 ± 8.9	<0.000
Change	15.5 ± 13.1	5.8 ± 9.7	0.001
PROMIS Arosety			
Pre-operative	42.4 ± 7.0	41.9 ± 6.7	0.95
2 y	57.9 ± 11.0	47.5 ± 8.9	<0.000
Change	15.5 ± 13.1	5.8 ± 9.7	0.001
PROMIS Depression			
Pre-operative	50.4 ± 8.5	50.9 ± 8.2	0.87
2 y	46.5 ± 9.7	50.2 ± 9.1	0.10
Change	-3.8 ± 8.1	-1.0 ± 8.5	0.25
Numeric Pain Score - Operative Hip			
Pre-operative	4.4 ± 2.7	5.1 ± 2.3	0.34
2 y	1.1 ± 1.6	4.1 ± 2.4	<0.000
Numeric Pain Score - Whole Body			
Pre-operative	1.5 ± 1.9	1.6 ± 2.2	0.89
24	1.8 ± 1.5	3.0 ± 2.7	0.17
MARX			
Pre-operative	40.0 ± 36.3	44.5 ± 39.4	0.77
2 y	44.4 ± 27.2	29.5 ± 32.8	0.024
Tegner			
Pre-operative	4.2 ± 2.5	5.5 ± 2.6	0.11
Post-operative	51±23	3.6 ± 2.5	0.018
Pretreament Expectations Total	90.1 ± 12.3	89.5 ± 15.2	0.79
MODEMS Total	876 ± 172	548+259	<0.000
5508	88 6 + 15 3	665+195	<0.000

Measure	Threshold*	Sensitivity	Specificity	AUC
PROMIS PF				
2 y	≥51.3	0.69	0.91	0.87
Change	≥12.0	0.69	0.91	0.86
PROMIS PI				
2 y	≤46.6	0.62	0.91	0.85
Change	S-12.2	0.76	0.91	0.85
PROMIS Fatigue				
2 y	\$37.8	0.31	0.91	0.74
Change	S-13.1	0.43	0.91	0.73
PROMIS SS				
2 y	≥60.0	0.48	0.91	0.79
Change	≥17.8	0.46	0.91	0.74
PROMIS Anxiety				
2 y	≤40.9	0.31	0.91	0.69
Change	S-16.1	0.25	0.91	0.79
Numeric Pain Score - Operative				
Hip 2v	<1.0	0.79	0.84	0.88
MARX	22.0	0.75		0.00
2y	280.0	0.11	0.90	0.67
Tegner				
Post-operative	28.0	0.14	0.90	0.68
MODEMS total	≥95.0	0.62	0.90	0.87
SSOR	≥87.5	0.66	0.91	0.86