Does Employment Status Matter? A Retrospective Analysis of PROM Improvement Following Total Joint Arthroplasty

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INTRODUCTION: Patient-reported outcome measures (PROMs) are vital for assessing postoperative recovery and may be used for value-based reimbursements to ensure that patients meet minimally clinically important differences (MCID). While these outcomes are routinely evaluated less is known on how sociodemographic factors, such as employment status impacts PROMs. This study investigates patients who underwent total joint arthroplasty (THA and TKA) and whether employment status (employed or retired) was associated with achieving MCID. We hypothesize that employed patients, though potentially starting with lower baseline function due to delaying surgery for work-related reasons, will demonstrate greater improvements over time and are more likely to surpass MCID thresholds compared to retired patients

METHODS: This retrospective study assessed patients (n = 456) who underwent either HA or TKA between October 2022 and March 2025. Patient demographics and intraoperative details were extracted EMR system. HOOS, JR. and KOOS, JR. scores were collected at preoperative, 3-month, 6-month and 1-year intervals. Patients were stratified by procedure type, employment status and age (60-64 and 65-69). The average PROM scores, standard deviations, and change in score (Δ) from preoperative to 1-year postoperative were calculated for each cohort. MCID thresholds were defined as 16 points for the KOOS, JR and 23 points for the HOOS, JR, based on published values (Dekhne et al., 2024) and the proportion of patients meeting the MCID threshold within each group. Statistical comparisons were conducted using a Student's t-test, with significance set at $p < 0.05$.

RESULTS: For TKA's, the employed group aged 65-69 (n=51) had the highest percentage of patients who met the MCID threshold at 79.1% while the retired group aged 60-64 (n=20) had the lowest percentage at 38.8% (Table 1). For THA's, the employed group aged 65-69 (n=37) showed the biggest improvement in their HOOS, JR scores at the 1-year mark while also having the highest percentage of patients meet the MCID threshold (Table 2).

DISCUSSION AND CONCLUSION: Employment status and age appear to influence recovery and the likelihood of achieving MCID following THA and TKA. Employed patients aged 65–69 had the greatest functional improvement and highest MCID achievement rates. These findings suggest that sociodemographic factors may impact PROM-based reimbursement metrics and should be considered in postoperative care strategies. Further research is needed to identify additional underlying contributors to these trends.

Table 1. KOOS JR scores and MCID achievement following total knee arthroplasty (TKA), stratified by age group and employment status.

Age	Status	PreOp	3 months	6 months	1 year	% MCID Met	1 yr Δ from Pre-op	P value (Employed Δ vs Retired Δ)
60-64 Years Old	Employed (KOOS JR)	49.99	66.6	68.6	72.39	63%	+22.4	
	n=	107	85	78	49			0.2365
	Retired (KOOS JR)	50.92	67.22	70.95	68.3	38.80%	+17.38	
	n=	42	38	33	20			
65-69 Years Old	Employed (KOOS JR)	46.68	66.73	72.8	76.49	79.10%	+29.81	
	n=	109	93	84	51			0.0089
	Retired (KOOS JR)	53.34	70.03	72.85	74.27	47%	+20.93	
	n=	115	80	76	43			

Table 2. HOOS JR scores and MCID achievement following total hip arthroplasty (THA), stratified by age group and employment status.

Age	Status	PreOp	3 months	6 months	1 year	% MCID Met	1 yr Δ from Pre-op	P value (Employed Δ vs Retired Δ)
60-64 Years Old	Employed (HOOS JR)	49.33	79.97	83.07	84.65	89.10%	+35.32	
	n=	130	109	86	44			0.2348
	Retired (HOOS JR)	53.62	75.91	78.06	83.63	80%	+30.01	
	n=	53	53	41	25			
65-69 Years Old	Employed (HOOS JR)	52.5	82.7	85.75	89.73	97.20%	+37.23	
	n=	106	82	86	37			0.0147
	Retired (HOOS JR)	52.92	75.56	81.21	82.17	69.80%	+29.25	
	n=	167	146	117	66			