

Relation to Primary Emergency Contact is Associated with Lengths of Stay, Discharge Disposition, and Revision Rates after Total Hip Arthroplasty

Kyle William Lawrence, Akram Habibi¹, Hayley E Raymond, David A Bloom, Muhammad A Haider, Ran Schwarzkopf², Claudette Malvina Lajam³

¹NYU Langone Orthopedic Hospital, ²NYU Langone Orthopedic Hospital, Hospital For Jai, ³NYU Langone Orthopedics

INTRODUCTION: Social determinants of health strongly influence overall health, including recovery after total hip arthroplasty (THA). The modern electronic health record (EHR) includes a list of individuals identified by the patient as their emergency contacts. We aimed to assess whether the relationship between patients and their documented primary emergency contacts was associated with outcomes after THA.

METHODS: Primary, elective THA cases at a single institution from 2011-2022 were retrospectively reviewed. Primary emergency contacts were stratified into two groups: Spouse/Relative (SR) [spouse, first/second degree relative] or Non-Family (NF) [non-familial relationships such as friend, neighbor] based on patients' documentation in the EHR. Baseline characteristics and postoperative outcomes were compared between groups, and binary logistic regression was used to assess variables associated with all-cause revision. In total, 17,520 THAs were included: 16,123 (92.0%) and 1,397 (8.0%) in the SR and NF groups, respectively.

RESULTS: The NF group was older, more predominantly non-White, covered by Medicare/Medicaid, and current/former smokers. Lengths of stay were significantly longer in the NF group (SR: 2.2 [0.3 to 55.3] vs. NF: 2.5 [0.3 to 22.3] days). NF patients were significantly less likely to be discharged home. Readmissions and septic revisions at latest follow up were comparable between groups. A trend in all-cause revisions within 90 days favored the SR group and was significantly better at two years (SR: 1.9% vs. NF: 3.0%) and latest follow up (SR: 2.5% vs. NF: 3.9%). Having a NF primary contact was independently associated with risk of all-cause revision at latest follow up (odds ratio: 1.48).

DISCUSSION AND CONCLUSION: THA patients with a documented familial contact demonstrate better postoperative outcomes compared to those without a familial contact. Directing additional postoperative ancillary support to patients without familial support may be warranted following THA.

	Primary Contact Relationship		P-Value
	Spouse/Relative	Non-Family	
Age (years)	63.6 (18 to 97)	65.0 (20 to 94)	<0.001
Sex (female)	9043 (56.1%)	820 (88.7%)	0.060
Race			0.023
White	12034 (83.5%)	1011 (80.4%)	
Black	2003 (13.9%)	213 (16.9%)	
Asian/Pacific Islander	336 (2.3%)	32 (2.5%)	
Other	37 (0.3%)	2 (0.2%)	
Language			0.797
English	14905 (92.4%)	1289 (92.3%)	
Non-English	1218 (7.6%)	108 (7.7%)	
Insurance Type			<0.001
Private/Other	7794 (48.3%)	528 (37.8%)	
Medicare	7364 (45.3%)	745 (53.3%)	
Medicaid	965 (6.0%)	124 (8.9%)	
Income Status			<0.001
<\$50,000	2466 (15.8%)	224 (16.6%)	
\$50-75,000	3514 (22.4%)	299 (22.1%)	
\$75-100,000	3530 (22.7%)	215 (15.9%)	
>\$100,000	6050 (38.9%)	615 (45.5%)	
Smoking Status			<0.001
Never	8276 (52.2%)	631 (46.2%)	
Former	6294 (39.7%)	601 (44.0%)	
Current	1284 (8.1%)	135 (9.9%)	
ASA Status			0.668
I	1037 (6.4%)	82 (5.9%)	
II	9915 (61.4%)	866 (62.2%)	
III	4892 (30.4%)	419 (30.1%)	
IV	249 (1.5%)	26 (1.9%)	

Figure 1: Baseline demographics based on primary contact relationship. ASA, American Society of Anesthesiologists.

	Primary Contact Relationship		P-Value
	Spouse/Relative	Non-Family	
Length of Stay (days)	2.2 (0.3 to 55.3)	2.5 (0.3 to 22.3)	<0.001
Discharge Disposition			<0.001
Home	14167 (88.0%)	1108 (79.5%)	
Acute Rehab	454 (2.8%)	76 (5.5%)	
Skilled Nursing	1479 (9.2%)	210 (15.1%)	
Readmission (90-day)	619 (3.8%)	64 (4.6%)	0.169
Revision (all-cause)			
90-day	174 (1.1%)	23 (1.6%)	0.057
Two-years	312 (1.9%)	42 (3.0%)	0.008
Latest Follow-up	398 (2.5%)	54 (3.9%)	0.002
Revision (septic)			
Latest Follow-up	86 (0.5%)	10 (0.7%)	0.345

Figure 2: Perioperative and postoperative outcomes based on primary contact relationship.

Variable	OR [95% CI]	P-Value
Contact Relationship		
Spouse/Relative (ref.)	1.00	-
Non-Family	1.48 [1.05 to 2.08]	0.025
Age (years)	0.98 [0.97 to 0.99]	0.002
Body Mass Index (kg/m²)	1.02 [1.00 to 1.04]	0.017
Sex (female)	1.00 [0.81 to 1.25]	0.974
Race		
White (ref.)	1.00	-
Black	0.82 [0.58 to 1.16]	0.267
Asian/Pacific Islander	0.53 [0.20 to 1.46]	0.221
Language		
English (ref.)	1.00	-
Non-English	0.64 [0.37 to 1.11]	0.111
Insurance Type		
Private/Other (ref.)	1.00	-
Medicare	1.34 [1.01 to 1.78]	0.043
Medicaid	1.06 [0.66 to 1.70]	0.820
Income Status		
>\$100,000 (ref.)	1.00	-
<\$50,000	1.28 [0.90 to 1.82]	0.167
\$50-75,000	0.69 [0.50 to 0.95]	0.024
\$75-100,000	0.99 [0.75 to 1.31]	0.950
Smoking Status		
Never (ref.)	1.00	-
Former	1.07 [0.85 to 1.34]	0.577
Current	1.21 [0.85 to 1.78]	0.341
ASA Status		
I (ref.)	1.00	-
II	1.15 [0.69 to 1.93]	0.592
III	1.42 [0.82 to 2.47]	0.208
IV	1.33 [0.50 to 3.53]	0.568

Figure 3: Regression analysis of primary contact relationship and baseline characteristics and risk of all-cause revision at latest follow-up. OR, odds ratio. CI, confidence interval. ASA, American Society of Anesthesiologists.