

Effect of Specialized Care Teams on Post-Operative Complications Following Direct Anterior Total Hip Arthroplasty

Steven Leary, MD¹, Cale Dobson, BS¹, Victoria Tappa, MS¹, Natalie Hays, MPAS, PA-C¹, Jacob Elkins, MD, PhD¹

¹University of Iowa, Iowa City, IA

Steven-leary@uiowa.edu

Disclosures: Steven Leary (N), Cale Dobson (N), Victoria Tappa (8), Natalie Hays (N), Jacob Elkins (3B, 5, 8)

INTRODUCTION: Direct anterior total hip arthroplasty (DA-THA) is an increasingly utilized technique to address hip osteoarthritis that although popular, also carries a learning curve and significant wound healing concerns. One way to optimize outcomes is to incorporate specialized care teams through a dedicated advanced practice practitioner (APP) as first assist for DA-THA cases. The impact of such a specialized care team remains unclear. The purpose of this study was to determine the effect of a specialized APP on post-operative outcomes following DA-THA.

METHODS: We retrospectively reviewed patients undergoing DA-THA between 2020 and 2023 for primary hip osteoarthritis. Operative notes were reviewed for first assistant – a dedicated arthroplasty APP (specialized care team) or a surgical trainee (non-specialized care team). Demographic information, complication rates, and patient-reported outcomes (PROs) were recorded. Student’s t-test was used for quantitative variables and chi-square analysis for qualitative.

RESULTS SECTION: We identified 40 patients in the specialized care group and 200 in the non-specialized group. Mean age and BMI were 62 ± 12 years and 28.79 ± 4.42 kg/m², respectively. There was no difference in BMI (p=0.10) or age (p=0.333) between the groups. There were 7 complications in the specialized group in the first 3 months post-operatively (3.5%). The non-specialized group had 5 complications within the first 3 months (12.5%). Wound issues occurred in 3 specialized patients (7.5%) and 6 non-specialized (3%). The specialized cohort had a significantly lower short-term complication rate (p=0.017). Wound complication rates were not significantly different (p=0.17). There was no difference in 3-month PROs.

DISCUSSION: Specialized care teams had a lower cumulative short-term complication rate but not statistically different wound complication rate following DA-THA. Both groups had equivalent post-operative clinical outcomes. Our findings are primarily limited by the retrospective design, short-term follow-up of less than 1 year, and comparative cohort size difference between the specialized and non-specialized groups. Larger studies are indicated to fully determine the utility of specialized APPs during DA-THA.

SIGNIFICANCE/CLINICAL RELEVANCE: Our findings suggest that implementing a consistent, dedicated surgical team during DA-THA can positively impact clinical outcomes at short-term follow-up. Though more studies are needed, this can support the implementation of APPs on the surgical team as a way of limiting post-operative complications and, in turn, the associated costs to both patients and the larger healthcare system.

	Specialized Care Team (n=200)	Non-Specialized Care Team (n=40)	P-Value
Mean Age (years ± SD)	61.6 ± 12.5	63.65 ± 10.83	0.0995
Mean BMI (kg/m ² ± SD)	28.58 ± 4.4	29.84 ± 4.41	0.333
Mean Follow-Up (Months)	8.42 ± 7.3	5.77 ± 4.1	0.028

Table 1. Demographic information for each cohort.

	Specialized Care Team	Non-Specialized Care Team	P-Value
Pre-Operative (Mean ± SD)			
HOOS-JR	50.37 ± 14.16	50.16 ± 13.38	0.932
PROMIS-PH	41.06 ± 7.15	40.91 ± 9.12	0.910
PROMIS-MH	48.15 ± 8.05	48.28 ± 10.61	0.936
3-Month (Mean ± SD)			
HOOS-JR	75.93 ± 15.7	69.25 ± 16.64	0.068
PROMIS-PH	46.34 ± 9.37	45.20 ± 8.84	0.097
PROMIS-MH	49.55 ± 8.11	49.11 ± 10.39	0.909

Table 2. Patient-reported outcomes pre-operatively and at 3 months following THA. There was no significant difference between groups at either time point.

	Specialized Care Team (n=200)	Non-Specialized Care Team (n=40)	P-Value
Overall Complications (%)	10 (5)	5 (12.5)	0.074
Short-Term Complications (%)	7 (3.5)	5 (12.5)	0.017

Table 3. Overall and short-term (≤ 3 months) complication rates for each cohort. The specialized care team group had a significantly lower short-term complication rate than the non-specialized group. There was no difference in overall complication rates.