

Outcomes of Total Hip Arthroplasty at an Ambulatory Surgery Center versus a Hospital-Based Center



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Introduction

- The utilization of ambulatory surgery centers (ASC) as well as same day discharge (SDD) from hospital-based centers (HBC) has increased with the development of rapid recovery protocols for total hip arthroplasty (THA).
- Previous literature has demonstrated the safety of SDD.
- There is a paucity of literature directly comparing patient-reported outcomes by surgery site
- We sought to compare outcomes between patients undergoing THA at an ASC versus HBC while controlling for medical comorbidities.

Methods

- Patients undergoing primary THA with SDD (discharge post-operative day 0) from a single HBC or stand-alone ASC from December 2020-2021 were identified.
- Patient demographics and comorbidities were collected, as well as 90-day complications.
- HOOS Jr, VR-12, and procedural satisfaction scores were collected preoperatively, and at 3, 6, and 12 months.
- Patients were matched by age and ASA.
- Chi-squared analysis was performed to compare categorical variables, and a Wilcoxon rank sum test was used for continuous variables.
- Linear regression models were performed considering age, gender, and presence of comorbidities.

Patient Characteristics

	n	Age (SD)	ASA			DM	CAD	CHF	CKD	RA	Chronic steroids	OSA	COPD	Depression/ anxiety
			1	2	3									
Full cohort														
HBC	1015	65.8 (9.27)	11	766	237	646	111	17	50	21	133	16	41	212
ASC	170	58.8 (8.07)	8	150	12	9	8	1	2	1	0	198	1	30
p		<0.001	<0.001			<0.001	0.046	0.5541	0.0732	0.3865	<0.001	0.0113	0.0648	0.8625
Matched cohort														
HBC	170	59.1 (7.6)	8	150	12	103	11	3	6	1	20	31	3	39
ASC	170	59.0 (8.1)	8	150	12	10	8	1	3	2	0	18	1	37
p			1.00			<0.001	0.4787	0.3144	0.3108	0.5620	<0.001	0.0447	0.3144	0.7946

Results

- 1,439 patients were identified, 172 of which underwent THA at an ASC.
- After matching by age and ASA, each group had 170 patients.
- There was no significant difference in 90-day complication rates between groups.
- Pre-operative HOOS JR scores were significantly lower in the HBC group.
- There was no significant difference in HOOS Jr scores at any time point.
- There was no significant difference in change in HOOS JR score from pre-operative to any time point.
- There was no significant difference in procedural satisfaction at any time point.

Conclusions

- There was no significant difference in patient-reported outcomes at any time point for SDD after THA performed at an ASC or an HBC when controlling for age and comorbidities.
- This study suggests non-inferiority of stand-alone ASCs for ambulatory surgery THA regarding patient satisfaction and patient-reported outcomes.

HOOS JR scores by group preoperatively, and 12 weeks, 6 months and 1 year

	HSC (Std. Dev)	ASC (Std. Dev)	p
Full cohort			
Pre-operative	52.5 (13.3)	54.7	0.0228
12 weeks	81.6 (13.9)	82.0	0.6813
6 months	85.1 (13.5)	88.1	0.0085
1 year	87.3 (18.1)	89.7	0.0269
Matched cohort			
Pre-operative	52.0 (12.1)	54.7 (12.1)	0.046
12 weeks	81.4 (14.0)	82.0 (11.9)	0.848
6 months	86.1 (13.5)	88.1 (12.0)	0.264
1 year	88.9 (12.1)	89.8 (12.2)	0.403

Change from Preoperative HOOS JR score at 12 weeks, 6 months and 1 year

	HSC (Std. Dev)	ASC (Std. Dev)	p
12 weeks	29.5 (18.2)	26.7 (15.5)	0.073
6 months	33.7 (17.0)	32.5 (15.6)	0.790
1 year	36.7 (15.9)	35.2 (15.5)	0.579

Matched cohort satisfaction scores at 12 weeks and 1 year

		HSC (%)	ASC (%)	p
12 weeks	1	2 (1.4)	0 (0)	0.159
	2	1 (0.7)	0 (0)	0.320
	3	6 (4.1)	3 (2.1)	0.320
	4	19 (13.1)	18 (12.6)	0.896
	5	117 (80.7)	122 (85.3)	0.296
1 year	1	3 (2.2)	1 (0.7)	0.290
	2	5 (3.7)	0 (0)	0.021
	3	0 (0)	9 (6.3)	0.003
	4	18 (13.3)	26 (18.3)	0.257
	5	109 (80.7)	106 (74.7)	0.224