

Low Complication Rates for ASC Based Outpatient Total Hip and Knee Arthroplasty in Patients 65 and Over

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BACKGROUND

- Outpatient orthopedic procedures, particularly total hip arthroplasty (THA) and total knee arthroplasty (TKA), have grown in popularity due to improved patient convenience, reduced costs, and comparable clinical outcomes to traditional hospital-based surgeries.
- Despite these advantages, there is a limited understanding of medical adverse events associated with these surgeries in outpatient settings, especially among older patients.

OBJECTIVE

To evaluate the rates, types, and severity of adverse events in patients aged 65 years or older undergoing outpatient THA or TKA at a specialized ambulatory surgery center (ASC).

METHODS

Study Design

Retrospective chart review of patients who underwent outpatient THA or TKA between January 2021 and June 2024.

Patient Selection Criteria:

- Patients aged 65 or older at the time of surgery.
- Body mass index (BMI) \leq 40.
- Required pre-operative physical therapy clearance for same-day discharge.
- Adequate social support at home for recovery.
- Patients aged 70+ or with a history of cardiac issues required pre-operative cardiac clearance.

Data Collection

Patient medical records were reviewed from NextGen, HST, and TriHealth Epic systems. Information included medical history, post-operative outcomes, and follow-up data up to five years post-surgery.

Adverse Event Categorization:

- **Not Severe:** Events requiring no medical intervention (e.g., minor at-home falls).
- **Severe:** Events requiring medical intervention (e.g., infections or DVTs).
- **Serious:** Events resulting in serious injury or death.

Analysis

Statistical analysis was performed using Microsoft Excel to identify trends in adverse events and their severity.

RESULTS

Among 1,816 patients undergoing THA or TKA, the overall adverse event rate was 3.19% (58 AEs reported). The average patient age was 71.42 years, while patients experiencing adverse events averaged 74.88 years.

AE Classification:

- **Not Severe:** 41.38% (1.32% of total cases)
- **Severe:** 55.17% (1.76% of total cases)
- **Serious:** 3.45% (0.11% of total cases)

Hospital Transfers and Device-Related Events:

- Seven AEs required hospital transfer
- One AE likely device-related, two possibly device-related (e.g., femoral fracture, infection)

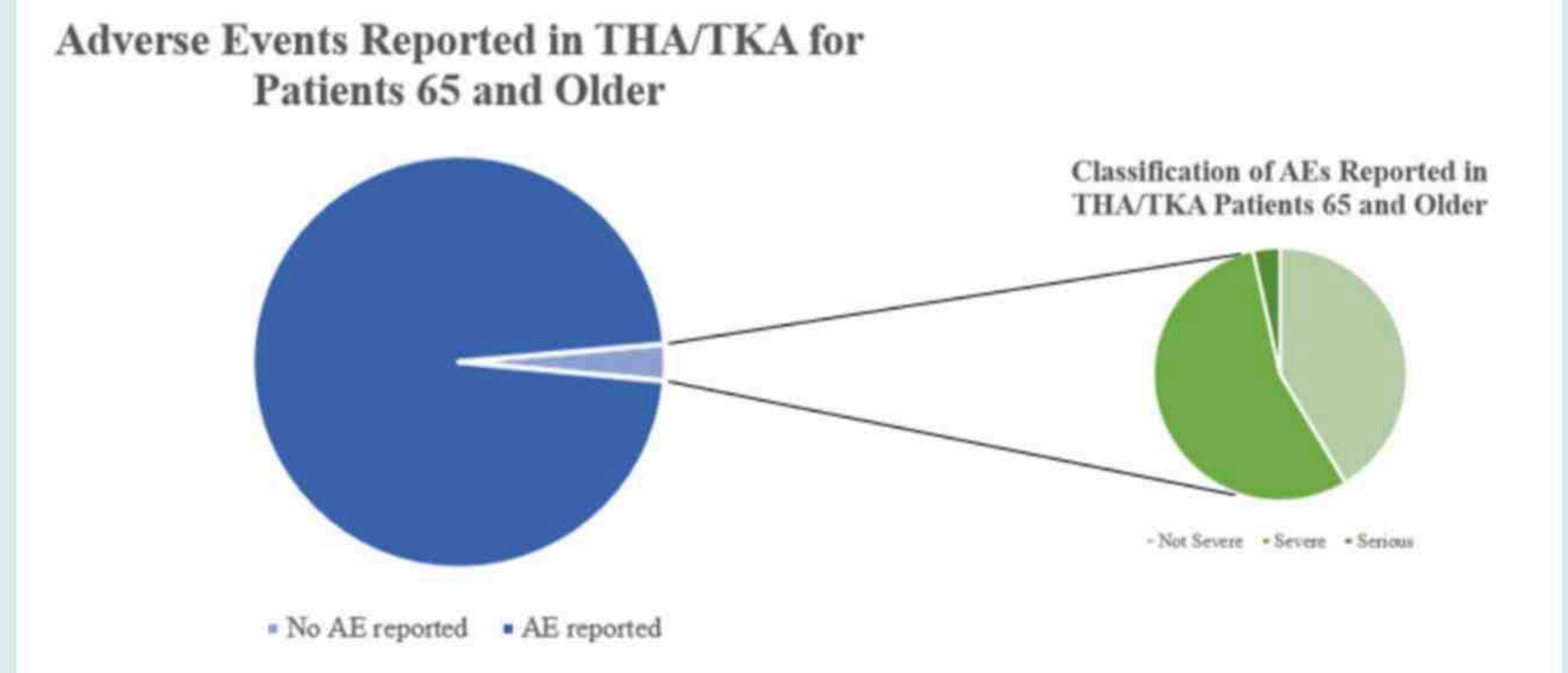
Falls and Thromboembolic Events:

- 14 non-severe falls; 2 falls led to hospitalization (within 24–48 hours)
- Three thromboembolic events: 2 DVTs (2 weeks, 2 months), 1 DVT/PE (2 weeks)

Not Severe			
AE	Related to Surgery	Related to Device	n
Medication Error	Unlikely	Unlikely	1
Fall	Likely	Unlikely	14
Pre-Op Hypotension	Likely	Unlikely	1
Subluxation	Likely	Unlikely	1
Hypotension	Likely	Unlikely	1
Syncopal Episode	Likely	Unlikely	1
IV left in place	Likely	Unlikely	1
Medication Error*	Likely	Unlikely	2
Boot Slip*	Likely	Unlikely	1
IV Infiltrated*	Likely	Unlikely	1
			24
Severe			
AE	Related to Surgery	Related to Device	n
Planning Error	Unlikely	Unlikely	1
Post-Op Urinary Retention	Likely	Unlikely	7
DVT	Likely	Unlikely	3
PE	Likely	Unlikely	1
Severe Pain and Swelling	Likely	Unlikely	3
Afib	Likely	Unlikely	1
Fall	Likely	Unlikely	2
Dehydration	Likely	Unlikely	1
Hyponatremia	Likely	Unlikely	2
Femoral Fracture	Likely	Likely	1
Cut During Drape Removal	Likely	Unlikely	1
Subluxation	Likely	Unlikely	2
Syncopal Episode	Likely	Unlikely	2
MI	Likely	Unlikely	1
Incision Opened During PT	Likely	Unlikely	1
Mobility Concerns	Likely	Unlikely	1
I&D	Likely	Possibly	2
			32
Serious			
AE	Related to Surgery	Related to Device	n
Cardiac Arrhythmia	Likely	Unlikely	1
Cardiac Arrest	Likely	Unlikely	1
			2

* Adverse events that occurred during surgery

TABLE 1: Table categorizing all adverse events reported and documented.



GRAPH 1: Pie chart breaking down adverse events reported. Left pie shows those who reported an adverse event versus no adverse event, and the right pie chart further categorizes the reported adverse events as not severe, severe, and serious.

CONCLUSION

Safety of Outpatient THA/TKA

- The observed adverse event rate (3.19%) was lower than rates reported for similar procedures performed in hospital settings.
- Results demonstrate that outpatient THA/TKA can be a safe and viable option for carefully selected patients, offering comparable outcomes with added convenience and cost savings.

Study Limitations

- Data relied on patient self-reporting through follow-up calls and visits, which may underreport adverse events.
- Structured post-operative surveys are now being implemented to capture more accurate recovery details.

Clinical Implications

- These findings provide valuable insights to improve patient selection criteria, clinical decision-making, and post-operative care strategies in outpatient settings.

REFERENCES

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