COMPARATIVE RISK OF HIP DETERIORATION FOLLOWING ULTRASOUND VS FLUOROSCOPY-GUIDED INTRA-ARTICULAR CORTICOSTEROID INJECTIONS

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1 BACKGROUND & DESIGN

Clinical question Do US- and fluoroscopy-guided intra-articular hip corticosteroid injections differ in downstream hip deterioration over 2 years?

- Retrospective cohort, TriNetX research network
- Adults ≥18 yrs with hip OA, same-day US or fluoro guidance
- Outcome: conversion to THA (primary), core decompression, femoral osteonecrosis, and an exploratory administrative-code surrogate for RDHD (M24.85/M16.7) over 2 Years
- ≥24 months follow-up; prior THA and hip malignancy excluded

Characteristic	US-Guided (n=1,007)	Fluoro-Guided (n=1,007)	Std. Diff.
Age at index, mean ± SD (y	61.3 ± 13.6	61.3 ± 13.3	0.004
Female sex, %	62.6%	63.7%	0.023
Type 2 diabetes mellitus, %	19.5%	17.0%	0.064
BMI recorded (Z68), %	38.9%	40.7%	0.037
Tobacco use, %	7.1%	5.7%	0.057
Long-term systemic steroid	4.0%	2.9%	0.060
Chronic kidney disease, %	7.3%	6.1%	0.052
Osteoporosis, %	9.4%	8.9%	0.017
Opioid analgesic use, %	56.9%	54.9%	0.040

2 PRIMARY OUTCOME · 2 YEARS

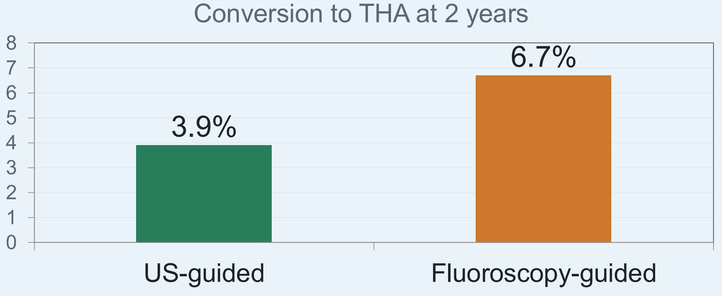
US-guided injection was associated with a significantly lower 2-year risk of conversion to total hip arthroplasty than fluoroscopy-guided injection.

Outcome	US-Guided n/N (%)	Fluoro-Guided n/N (%)	Hazard Ratio (95% CI)	p-value
THA (primary)	39/1,006 (3.9%)	67/1,007 (6.7%)	0.580 (0.391–0.861)	0.006
RDHD surrogate (second	16/963 (1.7%)	12/966 (1.2%)	1.345 (0.636–2.843)	0.436
Hip core decompression (	0/1,007 (0%)	0/1,007 (0%)	—	—

HAZARD RATIO

0.580

95% CI 0.391–0.861 · log-rank p=0.006



3 INTERPRETATION

Why it matters Rapidly destructive hip disease after corticosteroid injection has raised concern, but comparative data by guidance modality remain sparse.

LIMITATIONS

- Retrospective, observational design
- Residual confounding (OA severity, provider, dose) possible
- Marked cohort-attrition asymmetry limits generalizability

CLINICAL TAKEAWAY

Findings support further prospective evaluation of guidance modality and downstream hip outcomes.



References: 1. Parry et al., Arthrosc Sports Med Rehabil 2025;7(4):101169. 2. Okike et al., JBJS Am 2021;103(22):2070–2079. 3. Byrd et al., Arthroscopy 2014;30(1):42–46. 4. Roesly et al., J Orthop 2022;34:266–270. ·