

Suzetrigine Compared with NSAIDs in Chronic Hip/Knee Osteoarthritis: A Retrospective Cohort Analysis

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INTRODUCTION

- Hip and knee OA cause chronic pain, disability, and functional decline
- NSAIDs are standard but limited by GI, cardiovascular, and renal risks; safer alternatives are needed amid the opioid epidemic
- Suzetrigine, a selective NaV1.8 inhibitor, reduces peripheral pain signaling and is effective in acute pain models (abdominoplasty, bunionectomy)
- Objective:** Evaluate real-world efficacy and safety of suzetrigine versus NSAIDs in chronic hip and knee OA, focusing on pain control, opioid use, and adverse outcomes

METHODS

- Design & Data Source:** Retrospective case-control study using the TriNetX database of de-identified EHRs
- Population & Matching:** Included adults with hip or knee osteoarthritis without prior joint surgery; Suzetrigine users (n=1,664) were 1:1 propensity score–matched with NSAID controls (n=1,664) across 101 covariates (age, sex, race, comorbidities)
- Outcomes & Analysis:** Evaluated falls, surgical conversion, joint injections, chronic pain, mood disorders, analgesic dependence, AKI, and cardiovascular events, reporting ARR, RR, and adjusted OR (95% CI) with two-sided testing (p<0.05)

RESULTS

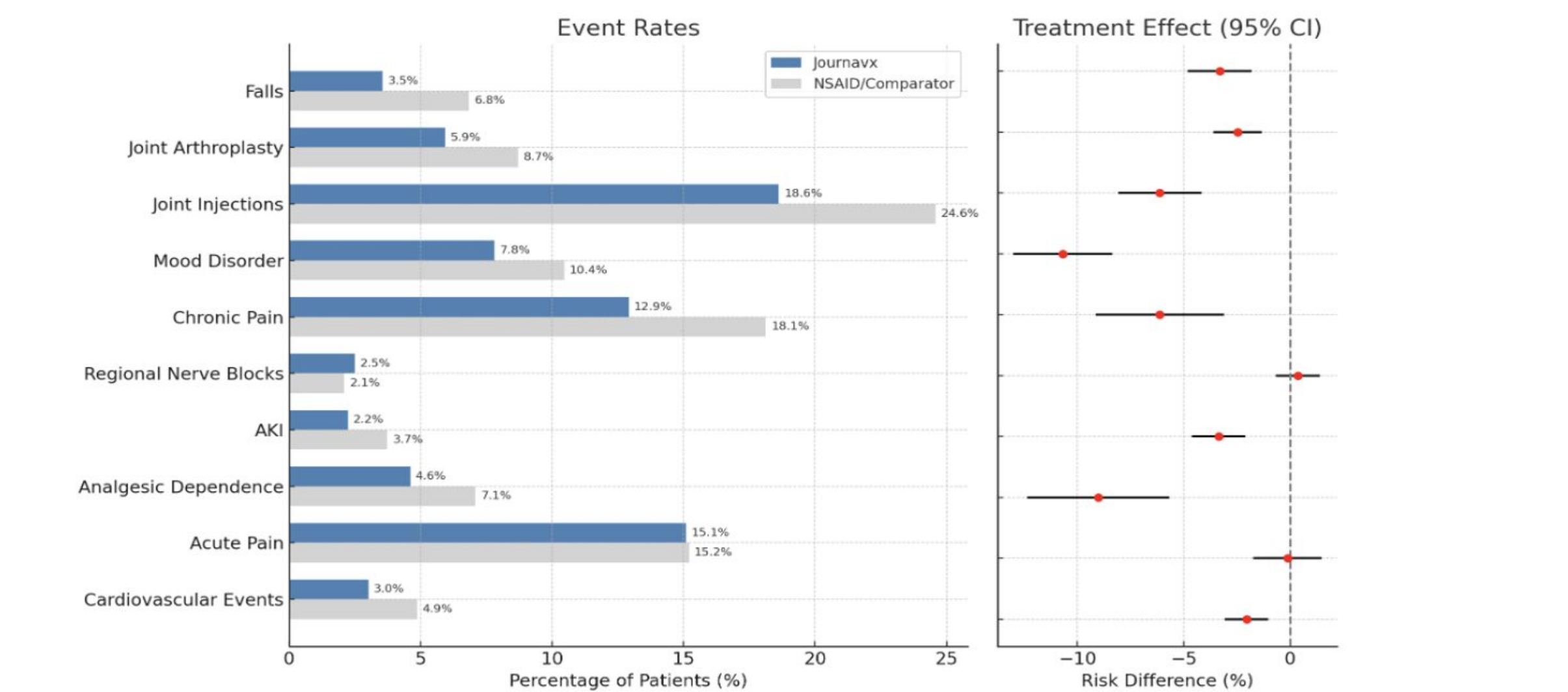
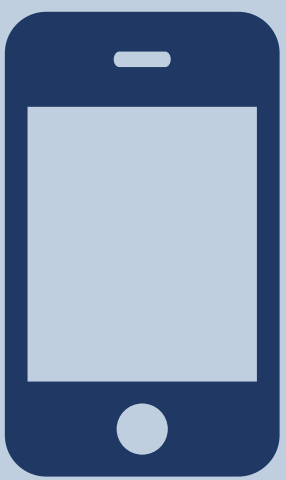


Figure 1. Absolute event rates and risk differences (95% CI) for clinical outcomes in patients with knee or hip osteoarthritis treated with Journavx versus NSAID comparators. Left panel: proportion of patients experiencing each outcome. Right panel: risk difference (ARR) with 95% confidence intervals. Negative values indicate reduced risk with Journavx compared to NSAID therapy.

In 3,328 propensity score–matched patients with non-surgical hip and knee osteoarthritis, **suzetrigine showed broad clinical benefits** versus NSAID therapy:

- Surgical progression ↓ by 59% – $RR\ 0.41$ (95% CI 0.26–0.60)**
- Joint injections ↓ by 49% – $RR\ 0.51$ (95% CI 0.40-0.63)**
- Analgesic dependence ↓ by 19% – $RR\ 0.81$ (95% CI 0.60–0.79)**
- Additional reductions:** chronic pain, acute kidney injury, cardiovascular events, falls, mood disorders



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Outcome	Suzetrigine (n=1,664)	Comparator (n=1,664)	Absolute Risk Reduction (ARR)	Relative Risk (RR)	Odds Ratio (OR)	p-value
Falls	59 (3.55%)	114 (6.85%)	2.46%	0.518	0.50	<0.0001
Joint Surgery	28 (1.68%)	69 (4.15%)	3.31%	0.406	0.396	<0.0001
Joint Injection	104 (6.25%)	206 (12.38%)	6.13%	0.505	0.472	<0.0001
Mood Disorders	143 (8.59%)	321 (19.29%)	10.70%	0.445	0.393	<0.0001
Chronic Pain	405 (24.34%)	507 (30.47%)	6.13%	0.799	0.734	<0.0001
Analgesic Dependence	624 (37.5%)	774 (46.5%)	9.0%	0.806	0.69	<0.0001
Acute Kidney Injury	31 (1.86%)	87 (5.23%)	3.37%	0.356	0.344	<0.0001
Cardiovascular Complications	22 (1.32%)	56 (3.37%)	2.04%	0.393	0.385	<0.0001
Acute Pain	98 (5.89%)	100 (6.01%)	−0.12%	0.98	0.979	0.88
Regional Nerve Blocks	43 (2.58%)	37 (2.22%)	0.36%	1.162	1.166	0.497

Table 1. Comparative Outcomes of Suzetrigine vs. NSAIDs in Non-Surgical Knee and Hip OA Patients

DISCUSSION

- Suzetrigine reduces surgical conversion, joint injections, analgesic dependence, chronic pain, AKI, cardiovascular events, falls, and mood disorders in non-surgical hip and knee OA
- Benefits appear driven by durable functional and systemic effects rather than short-term pain relief
- These findings support its potential to improve long-term OA management, reduce multimorbidity, and lower healthcare utilization, warranting prospective validation