# Epidemiology and Management of Adult Lisfranc Injuries in the United States: A 10-Year Analysis of 21,964 Cases

Robert John Burkhart, Parshva Amit Sanghvi, Rayyan Abid, Andrew Jacob Moyal, Jeremy Michael Adelstein, Alexander N Berk, Joshua Kyle Napora

INTRODUCTION: This study aims to analyze the incidence of primary Lisfranc injuries in a nationwide sample from 2014 to 2024 among various demographic factors and determine rates of surgical intervention and outcomes within one year of treatment.

METHODS: Utilizing the United States (US) Collaborative Network in TriNetX platform, the incidence of Lisfranc injuries from 2014 to 2024 was determined for patients who presented to either emergency departments or ambulatory settings. The demographic information of age, sex, and race was collected to further stratify the incidence rates for comparative analysis and treatment approaches were determined by current procedural terminology (CPT) coding.

RESULTS: From 2014 to 2024, there were 21,964 primary Lisfranc injuries recorded in the US TriNetX database. The overall incidence rate was 22.4 per 100,000 person-years, peaking with an incidence of 33.6 per 100,000 person-years in patients aged 40 to 44. Lisfranc injuries occurred at an equal rate between males and females (47% each). Roughly 40% of patients were treated surgically each year, with 75-78% of patients receiving open reduction internal fixation (ORIF) alone or in combination, 34-40% receiving arthrodesis alone or in combination and 12-14% receiving closed reduction percutaneous pinning (CRPP) alone or in combination.

DISCUSSION AND CONCLUSION: The rate of Lisfranc injuries in the United States follows a normal distribution peaking in incidence at 34 per 100,000 person-years in patients aged 40-44 years old. Roughly 40% of patients receive surgical treatment within 1 year of injury, with the most common procedure being ORIF followed by arthrodesis and CRPP.

**Figure 1.** STROBE Diagram Depicting Patient Selection

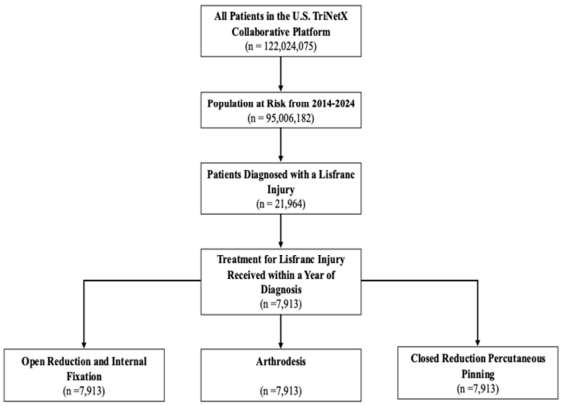


**Figure 2**. Trends in percentage of treatment within one year of Lisfranc Injury in the US Collaborative TriNetX database from 2014 to 2024