FinSpine

The Finnish Spine Register, known as FinSpine, is a nationwide, computer-based registry established to monitor surgical activities, assess the quality of spine surgeries, and evaluate long-term outcomes and treatment effectiveness in Finland. Initiated in 2016, FinSpine aims to systematically improve the quality of services and care related to lumbar, thoracic, and cervical spine surgeries performed on adults.

The development of FinSpine was a collaborative effort involving orthopedic surgeons and neurosurgeons from across the country. The registry is designed to be actively used by spine surgeons and facilitates the automatic and prospective collection of Patient Reported Outcome Measures (PROMs) and Patient Reported Experience Measures (PREMs).

As of 2023, FinSpine has been integrated into 19 out of 23 public hospitals in Finland, with plans to expand its use to private hospitals. The compliance rate among surgeons using the registry is approximately 80%, while patient response rates average 56%, reaching up to 90% in hospitals employing dedicated register coordinators.

In January 2023, FinSpine was granted continuous funding from the Finnish Institute for Health and Welfare (THL), recognizing its significance as a national quality register. This support underscores FinSpine's role in enhancing the quality of spine surgery services and patient outcomes across Finland.

For more detailed information on FinSpine, including its development, design, validation, and utility, you can refer to the article “The Finnish spine register (FinSpine): development, design, validation and utility” published in the European Spine Journal.

Longitudinal Nationwide Register Studies

This study utilized data from the Finnish national spine register (FinSpine), covering all centers from Finland which perform ACDF surgery. Patients undergoing primary ACDF surgery for DCSD between June 2016 and February 2024 without prior cervical spine surgery were included (n=5,517). Patients were grouped based on the patient symptom status (“Improved” vs. “Indifferent or worse”) at 12 months post-surgery. Predictive factors were identified using classification tree analysis followed by binary logistic regression.

At 12 months, 76.8% (n=1799) of patients reported symptom improvement, while 23.2% (n=542) reported that symptoms were indifferent or worse. Loss to follow-up for the outcome variable was 57.6% at 12-months. The Following factors were associated with better outcomes: shorter preoperative pain duration (≤1 year, OR: 1.95, P<0.001), lower preoperative Neck Disability Index (NDI) scores (≤42, OR: 1.37, P=0.012), and non-smoking (OR: 1.37, P=0.030). The initial diagnosis also influenced outcomes: patients treated for herniated discs and nerve root stenosis were more likely to report improvement compared to those with central canal stenosis or - myelopathy (P<0.001). Gender, age, BMI, working status, regular use of pain medication, perioperative complications, muscle weakness, levels fused and use of plate versus stand-alone cage were not independently predictive of outcomes.

Shorter preoperative pain duration, lower Neck Disability Index scores, and non-smoking status were significant predictors of good outcomes at 12 months after ACDF surgery for DCSD. These findings can help to guide preoperative patient counselling and enhance evidence-based decision making for treating DCSD [1)]

1)

Klimko N, Danner N, Salo H, Kotkansalo A, Leinonen V, Huttunen J. Outcome after Anterior Cervical Decompression and Fusion - A Nationwide FinSpine Register Study of Independent Predictors of Outcome at 12 Months after Surgery for Degenerative Cervical Spine. Spine (Phila Pa 1976). 2025 Mar 6. doi: 10.1097/BRS.0000000000005323. Epub ahead of print. PMID: 40047144.