Complications of Ankle Fracture Open Reduction and Internal Fixation Performed by Podiatrists vs. Orthopedists: A Systematic Review and Appraisal of National Policy Guidelines

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Purpose: The primary aim of this study is to compare complications following ankle fixation performed by orthopaedic surgeons and by podiatrists. A secondary outcome was to review legislature regarding podiatric practice guidelines to determine which states allow podiatrists to operate at the ankle.

Methods: PubMed, Embase, Web of Science, and Cochrane databases were queried for articles comparing complication rates for orthopaedic surgeons and podiatrists. Inclusion criteria were comparative studies such as randomized controlled trials, case controls, or matched cohort studies that compared complications between orthopaedists and podiatrists. Studies were excluded if they were abstract-only publications, basic science research, technique articles, systematic reviews or review articles, case reports, or if they were not published in English. Additionally, state legislature was reviewed using the Federation of Podiatric Medical Boards website.

Results: Four studies were identified for study inclusion, with a total of 24,012 surgeries completed by orthopaedic surgeons and 3156 by podiatrists. The 30-day rehospitalization was significantly higher for podiatrists (1.2%) compared to orthopaedic surgeons (0.1%, $p<0.01$). The 90-day rehospitalization was similarly higher for podiatrists (1.6% vs 0.3%, $p<0.01$). Surgeries completed by orthopaedists had higher rates of postoperative infection (4.8% vs 3.3%, $p<0.01$), revision surgery (1.9% vs 1.1%, $p<0.01$), and nonunion (2.1% vs 1.5%, $p<0.01$). Upon review of state legislature, it was determined that 47 out of 50 states in the United States allow podiatrists to operate on the ankle. Furthermore, 17 out of 50 states explicitly outlaw podiatrists from operating on the entire leg.

Conclusion: Surgeries completed by podiatrists require rehospitalization more frequently than those completed by orthopaedic surgeons, indicating that patients may be at higher risk of more serious complications following surgery completed by podiatrists. Surgeries completed by orthopaedic surgeons had higher rates of typical and less severe complications such as revision surgery, infections, and nonunion. This is likely due to orthopaedic surgeons performing surgeries on more severe or complex ankle fractures.