

Malpractice claims associated with foot surgery

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Abstract

Surgery of the foot constitutes a substantial portion of orthopedic procedures, performed by both orthopedic surgeons and doctors of podiatric medicine. Little research exists on the medicolegal implications of foot surgery amongst these specialties. This study seeks to investigate the different medical and legal factors associated with foot surgery-based malpractice litigation. Malpractice data between 2004 and 2017 was collected using the VerdictSearch legal database. Cases involving foot surgery were identified, and case information including physician specialty, procedure, medical outcome, verdict, and payment amount were obtained. A total of 72 cases were analyzed. A majority of lawsuits involved podiatrists (76.4%), with orthopedic surgeons accounting for 15.3%. Lawsuits against podiatrists primarily occurred over elective procedures (94.5%) and most frequently involved plaintiff complaints of persistent pain (41.8%) or deformation (27.3%). Podiatrist cases most often involved allegations of failure to treat (45.5%) or inappropriate surgical procedure (27.3%). Orthopedic surgeons saw higher rates of urgent cases (45.5%), with surgical complications (27.3%) occurring at higher rates than podiatrists. Despite different trends in case types, similar rates of plaintiff victories, and mean payments were seen between podiatrists (25.5%, \$911,884 ± 1,145,345) and orthopedic surgeons (27.3%, \$975,555 ± 448,795). This investigation is the first to analyze malpractice trends amongst podiatrists and orthopedic surgeons. Differing factors related to medical and legal outcomes can suggest quality improvement targets for both specialties. This data may assist in reducing malpractice risk and refining patient care, particularly with regards to outlining risks, benefits, and alternatives during pre-operative counselling.

Introduction

Injuries and degenerative conditions involving the foot are common, with as much as a third of the US population suffering foot and ankle pain.^{1,2} Surgical and non-surgical treatments of these injuries can be complicated both medically and legally due to anatomical and procedural complexities unique to the foot.³⁻⁶ Due to its primary elective nature, as well as the wide variety of surgical procedures and documented difficulties with obtaining informed patient consent^{7,8} there can be a range of malpractice lawsuits related to foot and ankle surgery. Orthopedic surgeons, who frequently perform these procedures, are one of the most frequently litigated medical subspecialties.⁹ Adding to the legal complexity, similar foot and ankle procedures are likewise performed by Doctors of Podiatric Medicine (DPMs) who have different training and credentialing pathways.¹⁰

There is limited research on malpractice trends in foot surgery, particularly compared to other orthopedic subspecialties.¹¹⁻¹⁵ Research on malpractice litigation in the United Kingdom by Ring et al.¹⁶ found that 12.6% of settled orthopedics claims were related to foot and ankle, with allegations related to diagnosis the most frequent. Research concerning malpractice trends amongst podiatrists is further lacking in the literature, even as podiatrists continue to assume greater roles in both inpatient and outpatient treatment of foot conditions.¹⁷

Given the volume of procedures performed by both podiatrists and orthopedic surgeons and the high potential for litigation, investigations into malpractice trends can provide valuable information to all specialties involved in foot surgery. This investigation sought to observe characteristics of malpractice litigation cases concerning foot surgery, with focus on differences in medical and legal outcomes between specialties, as well as what types of medical error most commonly result in successful claims. This information can better inform physicians with regards to their consent process and pre-surgical counseling, and provide insight for hospitals and other facilities during the credentialing and privileging process.

Materials and Methods

Data collection

Data was collected using the VerdictSearch legal database (ALM Media Properties), which provides access to over 200,000 case reports from across the United

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Key words: Foot, malpractice, bunionectomy.

Contributions: The study was conceived and designed by AD. The data were analyzed by DH and SD. The first draft of the manuscript was prepared by DH, which was edited with the input from the writing team (DH, SD, SA, EA, BB, AD). All authors revised the manuscript critically for important intellectual content. All authors gave final approval of the version to be published and have contributed to the manuscript.

Conflict of interest: DH reports no conflict of interest. SD reports no conflict of interest. SA reports no conflict of interest. AE receives royalties from Springer, LWW, and JHUP not related to this study. BB reports no conflict of interest. AD receives personal fees from Stryker, Spineart, Orthofix, EOS, Southern Spine, and Springer, and grants from Orthofix, all unrelated to this study.

Funding: None.

Conference presentation: This research was presented as a paper presentation at the AAOS 2019 Annual Meeting on 3/12/19.

Availability of data and materials: This study utilized Verdictsearch, an online legal database available via subscription at <https://verdictsearch.com/>

Ethics approval and consent to participate: All procedures performed were in accordance with the ethical standards of the institutional and/or national research committee.

Informed consent: Not applicable to this study.

Received for publication: 4 January 2020.

Accepted for publication: 9 February 2020.

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Orthopedic Reviews 2020;12:8439

doi:10.4081/or.2020.8439

States including over 22,700 medical malpractice lawsuits between February 1987 and December 2018, with relevant cases identified between September 2004 and December 2017. This database has been validated in previous orthopedic and non-orthopedic sur-

gical malpractice studies.¹¹⁻¹⁵ Cases were identified using the broad search criteria “Foot Surgery” within the VerdictSearch “Medical Malpractice” filter criteria and reviewed to identify only cases in which complications surrounding foot surgery were the primary reason for litigation. The practitioners involved, the nature of the surgery, and the medical outcomes of each case were analyzed in detail, and legal outcomes and financial compensation were recorded. Cases were further categorized by allegation type based on the alleged physician error: “Failure to treat” allegations primarily claimed that the procedure was insufficient in addressing the plaintiff (patient) complaint. “Inappropriate surgical procedure” cases alleged that the physician chose the incorrect procedure due to either superior alternatives or the patient’s current condition, while “intraoperative error” cases saw physicians accused of procedural negligence. “Improper post-surgical care” cases alleged postoperative treatment below the standard of care, and “delay in surgery” allegations asserted that physician delay in ordering/commencing surgery was the primary cause of adverse outcomes. All data were processed using Microsoft Excel 2010 (Microsoft Corporation, Redmond, WA) to calculate mean monetary amounts and standard deviations. Statistical analysis was done using Microsoft Excel and Stata Version 15.1. t-tests and chi-square analysis (or Fisher’s exact test where appropriate) were used for analysis of continuous and categorical data, respectively. All tests were two-tailed, and p-value < 0.05 was considered statistically significant.

Results

Case characteristics

A total of 72 cases related to foot surgery malpractice were identified from the VerdictSearch database, with case dates between September 2004 and December 2017 (13 years). The mean age of the patient population was 50.1±15.3 years, with 4 cases (5.6%) involving pediatric patients under age 18 (Table 1). Female patients represented a majority of defendants (83.3%, 60/72 cases) compared to male patients (16.7%, 12/72 cases). Fifteen states were represented in the results, with New York the most frequent (38.9%, 28/72 cases). Of the 72 total cases, 76.4% (55/72 cases) alleged malpractice by a podiatrist, while 15.3% (11/72 cases) involved orthopedic surgeons. Other physicians accounted for 8.3% of cases, and included 3 vascular surgeons, 2 internists, and 1 general surgeon. Though internists do not

operate, 2 lawsuits alleged internists of medical malpractice regarding treatment of a foot surgery patient and were included for analysis. Cases were defined as involving either elective or urgent procedures, with a substantial majority involved elective surgeries (81.9%, 59/72 cases). Allegations of failure to treat were the most frequent (38.9%, 28/72 cases), followed by inappropriate surgical procedure (25%, 18/72 cases). Cases most frequently concluded in a verdict favoring the defense (physician), with 68.1% (49/72 cases) of trials ending in favor of the defendant. Plaintiff (patient) verdicts occurred in 23.6% (17/72 cases), while settlements occurred in only 8.3% (6/72 cases) (Table 1).

Medical outcomes

Reasons for surgery were categorized as elective (81.9%, 59/72 cases) or urgent (18.1%, 13/72 cases), with urgent constituting cases in which surgical intervention was absolutely required to address the problem. Traumatic injury to the foot with the most frequent reason for urgent surgery (53.9%, 7/13 cases). The most frequent elective procedure was a bunionectomy (42.4%, 25/59 cases) followed by correction of an unspecified deformity (20.3%, 12/59 cases). Podiatrists were substantially more likely to be litigated following elective procedures (94.5%, 52/55 cases), while orthopedic surgeon litigations were more evenly divided between elective and urgent cases (54.5% elective, 6/11 cases, p = 0.002); “Other” physicians saw lawsuits for urgent procedures in 83.3% of cases (5/6).

Medical outcomes were categorized by the primary plaintiff complaint leading to litigation. Surgical complications (6 cases) encompassed adverse outcomes not specific

to the procedure, and included treatable infections (3), pulmonary embolism (1), and death (1). Podiatrists were most frequently litigated for outcomes of persistent pain (41.8%, 23/55 cases), with deformation the second most frequent outcome (27.3%, 15/55 cases). The most frequent medical outcome in lawsuits against orthopedic surgeons was also persistent pain (36.4%, 4/11 cases). Orthopedic surgeons saw higher rates of litigation for surgical complications (27.3%, 3/11 cases) and leg amputation (9.1%, 1/11

Table 1. Characteristics of malpractice cases.

Characteristic	n (%)
Cases	72
Plaintiff	
Mean Age (± SD)	50.1 ± 15.3
Male	12 (16.7)
Female	60 (83.3)
Specialty Litigated	
Podiatrist	55 (76.4)
Orthopedic Surgeon	11 (15.3)
Other Physician*	6 (8.3)
Procedure	
Elective	59 (81.9)
Urgent	13 (18.1)
Allegation	
Failure to treat	28 (38.9)
Inappropriate Surgical Procedure	18 (25)
Intraoperative Error	12 (16.7)
Improper Post-Surgical Care	9 (12.5)
Delay in Surgery	5 (6.9)
Trial Verdict	
Plaintiff	17 (23.6)
Defense	49 (68.1)
Settlement	6 (8.3)

* Vascular surgeon (3), Internist (2), General surgeon (1).

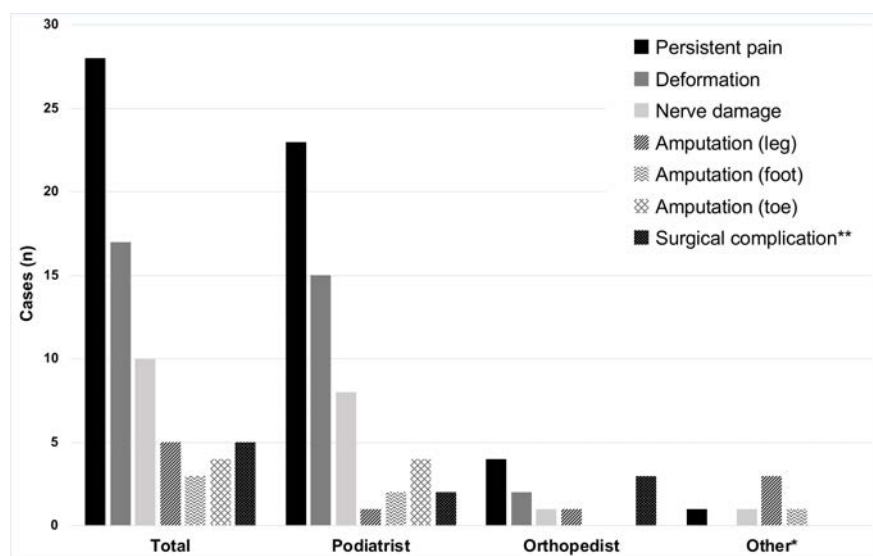


Figure 1. Medical outcomes leading to malpractice lawsuits. *Vascular surgeon (3), Internist (2), General surgeon (1). **Infection (3), pulmonary embolism (1), death (1).

cases) compared to podiatrists. Other physicians saw amputation as a medical outcome in 66.7% of cases (3 leg, 1 foot in 6 cases), with all three vascular surgeons and one internist being litigated due to an amputation (Figure 1).

Allegation types

Cases were sorted into categories identifying the basis of the plaintiff allegation. Podiatrists were most frequently litigated for failure to treat the patient (45.5%, 25/55 cases), which represented cases in which the defendant failed to sufficiently alleviate the patient’s reason for presentation despite a surgical procedure. Allegations of inappropriate surgical procedure, in which the plaintiff alleged that the surgery performed was not the ideal approach, accounted for the second most cases against podiatrists (27.3%, 15/55 cases). Podiatrists were only litigated for improper post-surgical care in 10.9% (6) of cases and delay in surgery in 1.8% (1 case). Cases against orthopedic surgeons alleged inappropriate surgical procedure, intraoperative error, and improper post-surgical care with equal frequency (27.3%, 3 cases each), with intraoperative error and improper post-surgical care more frequent than podiatrists (14.5%, 8/55 cases and 10.9%, 6/55 cases respectively). Across all specialties, intraoperative error was the only allegation type associated with physician loss which approached statistical significance (p=0.055). Other physicians were most frequently litigated for delays in surgery (66.7%, 4 cases), with both internists and 2/3 vascular surgeons litigated for failing to initiate surgery in a timely manner (Figure 2).

Legal outcomes

In total, malpractice trials regarding foot surgery most frequently ended in defense verdicts (68.1%, 49/72 cases), and with a similar frequency of verdicts favoring the defense seen amongst podiatrists (67.3%, 37/55 cases), orthopedic surgeons (72.7%, 8/11 cases), and other physicians (66.7%, 4/6 cases, p=0.936). All urgent surgeries included in the study performed by orthopedic surgeons (n=5), which included 3 traumatic fractures and 2 tendon repairs, resulted in verdicts favoring the defense. Podiatrists settled in 4 cases (7.3% of podiatry cases), all for elective surgical procedures. 25% of elective procedures included in the study performed by podiatrists (13/52 cases) concluded in a plaintiff verdict. Mean payments made to victorious plaintiffs did not differ significantly between podiatrists (mean payment \$911,884 ± \$1,145,345) and orthopedic surgeons (mean payment \$975,555 ± \$448,795, p=0.927). No cases involving orthopedic surgeons ended in settlements. The highest paying cases (\$3,500,000 and \$3,447,803) ruled

against podiatrists, with both involving an amputation (Table 2). The highest plaintiff payment made by an orthopedic surgeon (\$1,391,666) was done following a pediatric bunionectomy resulting in persistent pain. The highest payment in a settlement was made by an internist (\$1,000,000) and like-

wise involved an amputation as the medical outcome. The mean payout for all cases resulting in plaintiff victory was \$923,120.5 ± \$1,044,822 and the mean payout for all cases resulting in settlement was \$592,500 ± \$356,002; no significant difference was observed (p= 0.4616) (Figure 3).

Table 2. Payments made to plaintiffs.

Specialty	Outcome	Mean payment ± SD (\$)	Median payment (\$)
Podiatrist	Plaintiff	911,884 ± 1,145,345	390,000
	Settlement	520,000 ± 379,825	490,000
Orthopedic Surgeon	Plaintiff	975,555 ± 448,795	1,035,000
Other Physicians*	Settlement	737,500 ± 371,231	737,500
Total	Plaintiff	923,120 ± 1,044,822	500,000
	Settlement	592,500 ± 356,002	537,500

*Vascular surgeon (3), Internist (2), General surgeon (1)

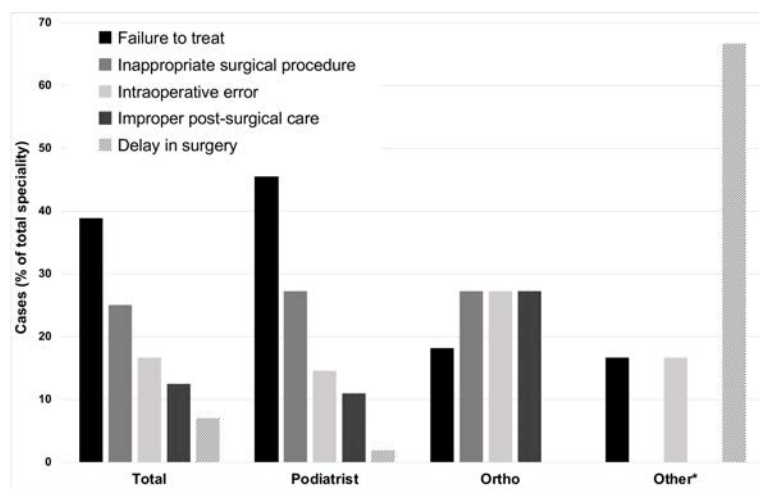


Figure 2. Categorization of malpractice allegations. *Vascular surgeon (3), Internist (2), General surgeon (1).

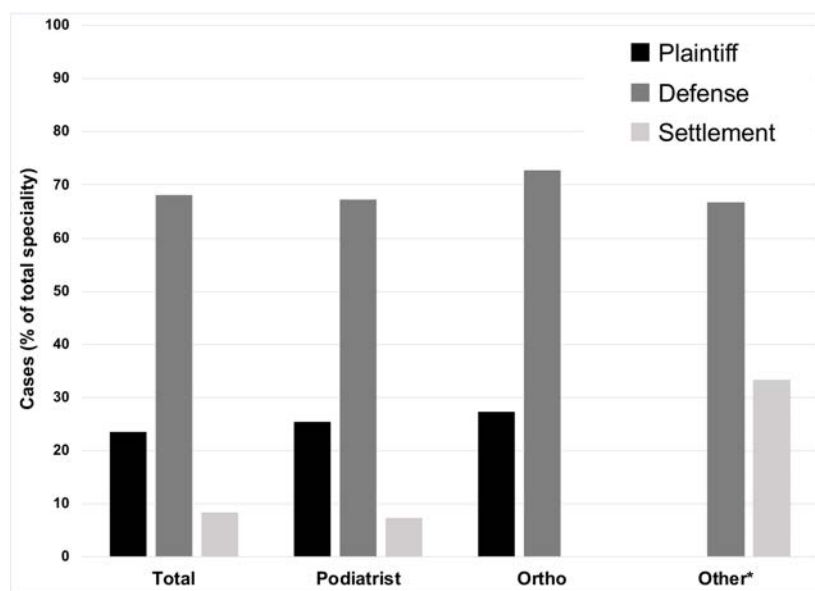


Figure 3. Legal outcomes of malpractice cases. *Vascular surgeon (3), Internist (2), General surgeon (1)

Discussion and Conclusions

This investigation examined medicolegal characteristics surrounding cases of foot surgery malpractice. Podiatrists were primarily litigated for elective procedures (94.5%), most frequently for the medical outcomes of persistent pain (41.8%) and deformation (27.3%). These outcomes correspond to the higher frequency of failure to treat allegations (45.5%) seen in podiatrists. This suggests that podiatrists are primarily facing lawsuits for what patients perceive as ineffective elective procedures. In contrast, orthopedic surgeons saw higher rates of surgical complication (27.3%) and amputation (9.1%) outcomes than podiatrists, as well as allegations of improper post-surgical care (27.3%) and negligent procedures (27.3%). However, cases involving orthopedists were more likely to be urgent than those involving podiatrists (45.5% vs 5.5%), suggesting differences in the forms of cases leading to litigation between specialties. Despite the increased rate of litigation for ineffective elective surgeries amongst podiatrists, there were not significant disparities in legal or financial outcomes observed between specialties, which is important to be aware of as foot surgeries take on more of an economic burden.² Orthopedics lawsuits are frequent in the sphere of medical malpractice, with nearly 15% of orthopedic surgeons litigated annually.⁹ Foot and ankle procedures involve a unique range of complications and complexities that can warrant litigation;^{3,4,16} in particular, expected outcomes can differ greatly between the patient and physician, creating issues of informed consent and dissatisfaction with the medical outcome.³ Patients have been demonstrated to have poor recall of previously explained surgical risks at postoperative visits following foot and ankle surgery,⁷ indicative of a potential source for malpractice litigation. Effort has been made using personalized literature⁸ and other methods to improve communication and reduce the risk of medicolegal action, but this remains an important site for quality improvement. The high rates of physician victory seen in the cases we investigated (68.1%) are potentially suggestive of the difficulty involved in this physician-patient information exchange, and less so surgical negligence, leading to malpractice litigation. Addressing the improvement of this interaction, may have significant impact on reducing instances of medical malpractice litigation.

Potential limitations of this study are due largely to the nature of the VerdictSearch database, as well as the limited sample size of non-podiatrist cases.

VerdictSearch cases are not reported by medical professionals, and the information provided can vary significantly between cases. Many trials are undoubtedly not reported in the database, creating a sample size that may be less reflective of larger populations and geographic regions. Additionally, VerdictSearch does not report on the total number of cases performed by the varying specialties, making it difficult to know if the difference in litigation rate is simply due to differences in volume, patient selection, or both. At present, there is limited data available comparing the volume of procedures performed by different specialties. Minimal data was available for analysis in the VerdictSearch database regarding ankle surgery, which may present with different medicolegal trends than were seen when analyzing exclusively foot surgeries. The limited number of cases involving orthopedic surgeons makes major conclusions regarding differences between specialties difficult, particularly without relative rates of procedure performed with which to compare. Despite these limitations, the present study is novel in the field of foot surgery, providing meaningful insight into malpractice trends across specialties and expanding our understanding of relevant medicolegal factors by presenting a summary of case variables that are pertinent to patient management. According to our data, podiatrists and orthopedic surgeons should place particular attention on the pain related to foot surgery, including management of both post-operative pain and, perhaps more importantly, preoperative expectations regarding surgical outcomes. Given the high rates of litigation involving alleged failure to treat and persistent pain following surgery, greater focuses on communication and patient understanding may be the simplest and most effective means by which to improve outcomes and reduce the likelihood of lawsuits. The information generated in this study could be useful not only for treating providers, but also for hospitals and similar services during the credentialing and privileging process. Further research is required to establish whether the trends we observed apply more broadly to the realm of foot surgery as a whole.

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