

Predictors of Unplanned Postoperative Visits in a Veterans Affairs Hand Surgery Practice

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Background: After elective soft tissue hand surgery, patients may make unplanned appointments when experiencing pain or anxiety. These appointments can contribute to late arrivals and delays in other clinics. Identifying predictive factors of unplanned postoperative visits may improve perioperative risk management or education and reduce unplanned appointments.

Methods: Elective soft tissue hand surgeries performed from July 1, 2018, to June 30, 2022 (excluding 2020, the COVID-19 pandemic year) in Veterans Affairs North Florida/South Georgia Veterans Health System operating rooms by the plastic surgery service were identified in the electronic health record. Data collected included age, sex, current smoking status, and residential zip code, as well as diagnoses of diabetes, depression, anxiety, or posttraumatic stress disorder (PTSD). Postoperative clinic notes were examined for 3 months for each patient. A χ^2 analysis with $P < .05$ was used to determine whether

age > 60 years, sex, proximity to the Malcom Randall Veterans Affairs Medical Center (MRVAMC), clinic, diabetes, smoking, depression, anxiety, or PTSD were statistically significant independent risk factors for unplanned appointments.

Results: Of 1009 hand surgeries, 81 (8.0%) patients returned for unplanned visits. Age ($P = .82$), proximity to MRVAMC ($P = .34$), diabetes ($P = .60$), current smoking ($P = .55$), anxiety ($P = .33$), and PTSD ($P = .37$) were not statistically significant predictors of unplanned visits. Depression ($P = .04$) and female sex ($P = .03$) were found to be independent risk factors for unplanned appointments. The most common indication for the appointment was pain.

Conclusions: Female sex and a depression diagnosis were statistically significant predictors for unplanned appointments in the early postoperative period after elective soft tissue hand surgery.

Patients make unplanned appointments after elective soft tissue hand surgery for real or perceived complications when they experience pain, anxiety, or fear. Unplanned appointments can create travel and financial burdens for patients and families. These appointments take time away from scheduled appointments and can contribute to late arrivals and delays in other clinics. Unscheduled appointments contribute to poor access when staff are diverted from scheduled appointments. If predictive factors can be identified, unplanned appointments may either be ameliorated or avoided with better perioperative risk management or education.

METHODS

The US Department of Veterans Affairs (VA) North Florida/South Georgia Veterans Health System (NFSGVAHS) and University of Florida Institutional Review Board approved a retrospective chart review of all plastic surgery cases performed at the Malcom Randall VA Medical Center (MRVAMC) and Lake City VAMC operating rooms from July 1, 2018, through December 31, 2019, and January 1, 2021, through June 30, 2022 (non-urgent surgeries were discouraged during the COVID-19 pandemic). Elective soft tissue hand surgery cases were identified based on the operative description found in the

Surgical Service Surgeon Staffing Report reviewed monthly by the Service Chief. Potential indicators of unplanned visits were recorded, including age; sex; diagnosis of diabetes, depression, anxiety, or posttraumatic stress disorder (PTSD); current smoking status; and residential zip code. We used the first 3 digits of the patients' zip codes, which indicate region, as an estimate of proximity to the MRVAMC, which has a 50-county catchment area across North Florida and South Georgia. Diagnoses were found on the "problem list" from the electronic health record documented in the history and physical examinations before surgery. Clinic notes were examined for 3 months postsurgery to identify unplanned postoperative visits and the reason for the appointment. A χ^2 analysis was conducted using Excel Version 2402. $P < .05$ was used to determine whether age (> 60 years), sex, proximity to MRVAMC, diabetes, smoking, depression, anxiety, or PTSD were statistically significant independent risk factors for these appointments.

RESULTS

A total of 1009 elective soft tissue hand surgeries at MRVAMC were reviewed. The patients median age was 61 years. Patients included 173 women (17.1%) and 836 men (82.9%). Eighty-one patients (8.0%) returned for unplanned visits. Age ($P = .82$;

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TABLE 1. Unplanned Postoperative Visit Risk Factors

Risk factor	Unplanned visit	No unplanned visit	P value
Age			.82
> 60 y	41	479	
≤ 60 y	40	449	
Sex			.03 ^a
Male	60	776	
Female	21	152	
Comorbidities			
Diabetes			.60
Yes	20	258	
No	61	670	
Depression			.04 ^a
Yes	29	237	
No	52	691	
Anxiety			.33
Yes	15	140	
No	66	788	
Posttraumatic stress disorder			.37
Yes	18	172	
No	63	756	
Smoking status			.55
Yes	17	170	
No	64	758	
Proximity by zip code ^b			.34
Nearby	16	143	
Distant	65	785	

^aStatistically significant.

^bFirst 3 digits of a patient's zip code indicates region, which was used to determine proximity.

proximity to MRVAMC ($P = .34$); and diabetes ($P = .60$), smoking ($P = .55$), anxiety ($P = .33$), or PTSD ($P = .37$) were not statistically significant predictors of unplanned appointments. Depression diagnosis ($P = .04$) and female sex ($P = .03$) were found to be independent risk factors for an unplanned appointment (Table 1). The most common indication for the requested appointment was pain-related, followed closely by noninfectious wound concerns and persistent symptoms (Table 2).

DISCUSSION

Improved access, quality, and efficiency for patients are goals for the VA.¹⁻³ The MRVAMC Plastic and Hand Surgery service provides care for the NFSGVAHS and receives an average of 15 to 20 consultation requests daily. The Veterans Health Administration is frequently challenged by staff shortages, and surgical services struggle to respond to consultation requests and treat patients within reasonable time frames.^{4,5}

The objective of this study was to identify risk factors for unplanned postoperative appointments following elective hand surgery. Unplanned appointments prevent scheduled patients from being seen on time and contribute to backlogs and delays. When patients schedule multiple appointments on the same day, delays in the first clinic's scheduled appointments create delays for the second and third clinics. Hand surgery clinics can provide a better experience for patients and staff by identifying and mitigating factors prompting unplanned visits.

We anticipated that wound complications would prompt unscheduled visits. Diabetes is a known risk factor for wound healing complications after plastic and hand surgery.^{6,7} A hemoglobin A_{1c} (HbA_{1c}) screening protocol used by the NFSGVAHS plastic surgery service since 2015 to identify poorly controlled patients with diabetes before surgery may partially explain this finding.⁸ We did not find a statistically significant difference between patients with diabetes and patients without diabetes for scheduling unplanned appointments. The plastic surgery service does not perform elective hand surgery unless the patient's HbA_{1c} level is < 9%, or violate the flexor sheath unless HbA_{1c} level is < 8%. However, Zhuang et al found an increase in soft tissue infections after hand surgery with HbA_{1c} levels ≥ 7%.⁹

Smoking is a potential factor in postoperative hand surgery complications.^{10,11} Lans et al found an increased incidence of 30-day emergency room visits in current and former smokers after outpatient upper extremity fracture surgery.¹² The MRVAMC Plastic Surgery Service counsels patients about the risk of skin necrosis and delayed wound healing, but does not cancel cases or obtain laboratory values to verify abstinence in patients undergoing hand surgery. The VA has multiple resources available for patients interested in smoking cessation through mental health services.¹³

MRVAMC patients have been known to resist returning for scheduled appointments due to the costs or availability of transportation. We suspected that patients who lived further from MRVAMC would be less likely to return for unscheduled visits. We used the first 3 digits of the patients' mailing zip code to estimate

residential proximity to MRVAMC. An acknowledged limitation to this approach is that some veterans have primary addresses in other regions but still spend significant time in the MRVAMC catchment area and use the facility for their health care during the winter months. These “snowbirds” might reside near the facility despite having official addresses that are more distant. Additionally, there was no increased risk of unplanned visits after hand surgery in patients aged > 61 years (the median age of study participants) ($P = .82$). Dependence on a third party for transportation in older veterans could impact this finding.

Based on the observation that most patients needed reassurance rather than an intervention when they returned for unscheduled appointments, diagnoses of depression, anxiety, and PTSD were evaluated as separate predictive factors. In previous research, anxiety was found to be a risk factor for problematic recovery following carpal tunnel surgery.¹⁴ In the current study, depression was found to be a statistically significant predictor of unscheduled postoperative appointments ($P = .04$), while anxiety ($P = .33$) and PTSD ($P = .37$) were not statistically significant predictors. This is consistent with other studies that have found preexisting depression can predict complications after hand surgery.^{15,16} Vranceanu et al found that depression predicted pain intensity and disability after elective hand surgery.¹⁶ Similarly, Oflazoglu et al found a 12% incidence of depression based on the Patient Health Questionnaire-9 in new and returning hand patients who presented to an academic practice.¹⁷ They suggest patients should be assessed at all levels of care and that those with poor responses to surgical or nonsurgical management should be evaluated for depression. MRVAMC has a large mental health service consisting of psychiatrists, psychologists, addiction specialists, social workers, and homeless outreach, and patients tend to already have a diagnosis and mental health practitioner when they present to the clinic.

Recent studies found that wound problems, pain, and stiffness were the most common reasons for return visits.^{18,19} Shetty et al identified younger age, worse preoperative

TABLE 2. Reasons for Visit (N = 81)

Concern	Result, No.
Pain	26
Wound/scar concerns (not infected)	22
Recurrent/persistent preoperative symptom	20
Infection	8
Dressing redone	3
Social	2

pain scores, and poor access to transportation as predictors of preventable emergency room visits, which generate higher health care expenditures than an office visit.¹⁹ Our study's top reasons for appointments (pain, wound/scar concerns, persistent symptoms) can be addressed with additional presurgery patient and family education. Additionally, clinicians encourage nonnarcotic pain management strategies including anti-inflammatories, acetaminophen, elevation, splinting, and hand therapy, and the hospital employs experienced, fellowship-trained anesthesia block faculty who help limit perioperative narcotic use. Patients are advised that pain can be used to guide them through the postoperative recovery by preventing overuse and alerting them to a problem that would be masked with narcotics, and long-standing problems such as chronic nerve compressions may continue to cause pain after surgery.

Patients and families can be given consistent and repetitive verbal and written information, instructions, and expectations at the initial consultation, preoperative appointment, and on the day of surgery. Postoperatively, outside their scheduled appointments, patients are encouraged to use the My HealtheVet secure messaging system or call the clinic to access an experienced registered nurse before making a long drive. Access to virtual or phone visits can reduce emergent in-person visits in a VA population.²⁰

Ozdogan et al found that 42% of patients who had elective carpal tunnel surgery made unplanned electronic messages or phone contact within 2 weeks postsurgery. The authors point out the uncompensated administrative burden on the staff answering these messages and suggest pre-empting the contacts with more up-front education regarding

postoperative pain expectations and management strategies.²¹

Fisher et al found that attending hand therapy reduced the number of emergency department visits in postoperative infection cases.²² At MRVAMC, a postoperative emergency department visit for a patient prompts an urgent unplanned appointment to the plastic surgery clinic, often on the same day. The MRVAMC occupational therapy clinic employed 3 on-site certified hand therapists during the study period. Because all hand surgery patients at the clinic receive hand therapy on the same day as their first postoperative appointment, attendance at hand therapy was not evaluated as a predictor of unplanned visits. Scheduled hand therapy is another point of contact where the clinic can provide reassurance and patient education.

While females made up 17.1% of the patients in this study, they constituted 12.5% of all veterans in Florida in fiscal year 2023.²³ This study found that women were more likely to present for unplanned postoperative appointments ($P = .03$). This is consistent with existing literature which has found that women are higher users of health care and office-based appointments.^{24,25} This finding suggests the need for further study into whether our methods of communicating instructions to female patients undergoing plastic surgery may not be optimal.

Strengths and Limitations

As a retrospective review, the authors used information documented by multiple different health care practitioners, including trainees. The electronic medical record problem lists and templates provide consistency of information; however, less seasoned clinicians may interpret what they see and hear differently from more experienced clinicians in the postoperative setting. This study occurred in one part of the country with demographics that may not mirror other VA systems or the general population. The authors hope this study can be a starting point for other health care facilities to investigate ways to minimize the burden of unscheduled appointments. A strength of the study is that it was conducted within a closed system, as patients tend to stay within the VA system

and documentation and communication among clinicians, even outside the immediate facility, are easily accessed through the electronic health record.

CONCLUSIONS

This study found that depression diagnosis and female sex are statistically significant predictors of unplanned postoperative visits after elective soft tissue hand surgery. More effective patient education during the preoperative period, particularly in patients with depression, may be warranted.

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Author disclosures

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Disclaimer

The opinions expressed herein are those of the authors and do not necessarily reflect those of *Federal Practitioner*, Frontline Medical Communications Inc., the US Government, or any of its agencies.

Ethics and consent

Institutional review board (IRB) approval was obtained from the University of Florida (#202201638). IRBnet approval was obtained from the North Florida/South Georgia Research Service (#1700529). No consent was needed due to the retrospective chart review nature of the study and the IRB/IRBnet protocol was followed.

References

1. Apaydin EA, Paige NM, Begashaw MM, et al. Veterans Health Administration (VA) vs. non-VA healthcare quality: a systematic review. *J Gen Intern Med.* 2023;38:2179-2188. doi:10.1007/s11606-023-08207-2
2. Blegen M, Ko J, Salzman G, et al. Comparing quality of surgical care between the US Department of Veterans Affairs and non-Veterans Affairs settings: a systematic review. *J Am Coll Surg.* 2023;237:352-361. doi:10.1097/XCS.0000000000000720
3. Valsangkar NP, Eppstein AC, Lawson RA, et al. Effect of lean processes on surgical wait times and efficiency in a tertiary care veterans affairs medical center. *JAMA Surg.* 2017;152:42-47. doi:10.1001/jamasurg.2016.2808
4. National Association of Veterans Affairs Physicians and Dentists. Physicians remain at top of staffing shortage in VA. NAVAPD. December 20, 2023. Accessed March 16, 2026. <https://www.navapd.org/news/physicians-remain-at-top-of-staffing-shortage-in-va>
5. OIG Determination of Veterans Health Administration's severe occupational staffing shortages fiscal year 2024. Veterans Affairs Office of Inspector General. August 7, 2024. Accessed February 4, 2026. <https://www.vaig.gov/reports/national-healthcare-review/oig-determination-veterans-health-administrations-severe-0>

6. Goltsman D, Morrison KA, Ascherman JA. Defining the association between diabetes and plastic surgery outcomes: an analysis of nearly 40,000 patients. *Plast Reconstr Surg Glob Open*. 2017;5:e1461. doi:10.1097/GOX.0000000000001461
7. Cox CT, Sierra S, Egan A, et al. Elevated hemoglobin A1c and the risk of postoperative complications in elective hand and upper extremity surgery. *Cureus*. 2023;15:e48373. doi:10.7759/cureus.48373
8. Coady-Fariborzian L, Anstead C. HbA1c and infection in diabetic elective hand surgery: a Veterans Affairs Medical Center experience 2012-2018. *Hand (N Y)*. 2023;18:994-998. doi:10.1177/1558944720937363
9. Zhuang T, Shapiro LM, Fogel N, et al. Perioperative laboratory markers as risk factors for surgical site infection after elective hand surgery. *J Hand Surg Am*. 2021;46:675-684. doi:10.1016/j.jhssa.2021.04.001
10. Cho BH, Aziz KT, Giladi AM. The impact of smoking on early postoperative complications in hand surgery. *J Hand Surg Am*. 2021;46:336.e1-336.e11. doi:10.1016/j.jhssa.2020.07.014
11. Del Core MA, Ahn J, Golden AS, et al. Effect of smoking on short-term postoperative complications after elective upper extremity surgery. *Hand (N Y)*. 2022;17:231-238. doi:10.1177/1558944720926638
12. Lans J, Beagles CB, Watkins IT, et al. Unplanned postoperative emergency department visits after upper extremity fracture surgery. *J Orthop Trauma*. 2025;39:22-27. doi:10.1097/BOT.0000000000002925
13. Tobacco and health - how to quit. US Dept of Veterans Affairs. Updated October 29, 2025. Accessed February 4, 2026. <https://www.mentalhealth.va.gov/quit-tobacco/how-to-quit.asp>
14. Ryan C, Miner H, Ramachandran S, et al. General anxiety is associated with problematic initial recovery after carpal tunnel release. *Clin Orthop Relat Res*. 2022;480:1576-1581. doi:10.1097/CORR.0000000000002115
15. Crijns TJ, Bernstein DN, Ring D, et al. Depression and pain interference correlate with physical function in patients recovering from hand surgery. *Hand (N Y)*. 2019;14:830-835. doi:10.1177/1558944718777814
16. Vranceanu AM, Jupiter JB, Mudgal CS, et al. Predictors of pain intensity and disability after minor hand surgery. *J Hand Surg Am*. 2010;35:956-960. doi:10.1016/j.jhssa.2010.02.001
17. Oflazoglu K, Mellema JJ, Menendez ME, et al. Prevalence of and factors associated with major depression in patients with upper extremity conditions. *J Hand Surg Am*. 2016;41:263-269. doi:10.1016/j.jhssa.2015.11.019
18. Townsend CB, Henry TW, Lutsky KF, et al. Unplanned office visits following outpatient hand surgery. *Hand (N Y)*. 2022;17:1264-1268. doi:10.1177/15589447211028932
19. Shetty PN, Guarino GM, Zhang G, et al. Risk factors for preventable emergency department use after outpatient hand surgery. *J Hand Surg Am*. 2022;47:855-864. doi:10.1016/j.jhssa.2022.05.012
20. Sommers-Olson B, Christianson J, Neumann T, et al. Reducing nonemergent visits to the emergency department in a Veterans Affairs multistate system. *J Emerg Nurs*. 2023;49:539-545. doi:10.1016/j.jen.2023.02.010
21. Ozdag Y, Manzar S, El Koussaify J, et al. Unplanned postoperative phone calls and electronic messages for patients with and without opioid prescriptions after carpal tunnel release. *J Hand Surg Glob Online*. 2024;6:363-368. doi:10.1016/j.jhsg.2024.02.006
22. Fisher AH, Gandhi J, Nelson Z, et al. Immediate interventions after surgery to reduce readmission for upper extremity infections. *Ann Plast Surg*. 2022;88:S163-S169. doi:10.1097/SAP.0000000000003141
23. Florida Department of Veterans Affairs Fast Facts. Florida Department of Veterans Affairs. Accessed February 4, 2026. <https://floridavets.org/our-veterans/profilefast-facts/>
24. Bertakis KD, Azari R, Helms LJ, et al. Gender differences in the utilization of health care services. *J Fam Pract*. 2000;49:147-152.
25. Ashman JJ, Santo L, Okeyode T. Characteristics of office-based physician visits, 2018. *NCHS Data Brief*. 2021;408:1-8.

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