

Current Concepts

Wide Awake Surgery: A Review of Cost Savings Potential

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Wide-awake surgery is becoming more common due to several potential advantages to patients, surgeons, and payers. For the patient, there is greater convenience and fewer complication risks. For the surgeon, there is greater efficiency and control. For the payer, there are fewer costs by eliminating anesthesia professional fees and facility fees. However, adoption has been slow for both wide-awake and office-based surgery due to a potential lack of financial incentivization for the surgeon. Surgeons performing wide-awake surgeries are uniquely positioned to drive greater cost savings to patients and payers while also potentially securing enhanced reimbursements for their increased services and overhead. This review will analyze the available literature around cost savings following carpal tunnel release (CTR) surgery, one of the most common surgeries performed in the United States, focusing on savings relative to the site of surgical care.

INTRODUCTION

Wide-awake surgery is becoming more common in the United States (US) due to several potential advantages to patients, surgeons, and payers. For the patient, there is greater convenience and fewer complication risks. For the surgeon, there is greater efficiency and control. However, perhaps the greatest potential advantage of wide-awake surgery is the cost savings that could be shared among patients, physicians, and payers. However, adoption has been slower than expected, leaving meaningful opportunities for pioneering surgeons.

Yet, one large study using US national data between 2010 and 2020 showed that office-based awake surgical carpal tunnel release (CTR) surgical rates rose only 1.2% to 3.4%.¹ [Figure 1 a-c] This is despite the fact that 69% of responding US hand surgeons acknowledged offering Wide Awake Local Anesthesia no Tourniquet (WALANT) surgery in 2020.² It might thus be observed that US hand surgeons are WALANT-ready as a cohort. Still, with only 10% of those offering WALANT reporting any financial benefit in 2020,² the lack of financial incentives may slow the transition to more WALANT or office-based surgery.

It is challenging to objectively analyze reimbursements and cost savings in the US due to the number of parties receiving reimbursement (physicians, anesthesia, and facilities), contractual variations from region to region, variations in insurance reimbursements between government

and private plans, annual reimbursement changes, and lack of transparency of costs. However, objectively analyzing these cost differences objectively is important in informing more cost-efficient medical and surgical treatment strategies.

Since the 1990s, there has been a successful cost-saving trend in moving surgical cases from hospitals to surgical centers. Many specialties, such as orthopaedic surgery, plastic surgery, and their common subspecialty of hand surgery, have embraced surgical centers for their efficiency and profit-sharing potential. WALANT hand surgery can evolve this process one step further by moving surgeries to an office-based setting. This inherently eliminates all anesthesia fees and decreases or even eliminates facility fees. The results are considerable savings for the payers and patients. However, the surgeon must assume greater responsibility for the entire patient's surgical experience, including all the overhead surgery costs. Yet, despite these added responsibilities, as of 2024, most WALANT hand surgeons do not necessarily receive increased compensation for these increased services nor generally benefit from the cost savings.

In this Current Concepts review, we will analyze the available literature around cost savings following carpal tunnel release (CTR) surgery, one of the most common surgeries performed in the US, estimated at over 500,000 cases per year, focusing on savings relative to the site of surgical care.³

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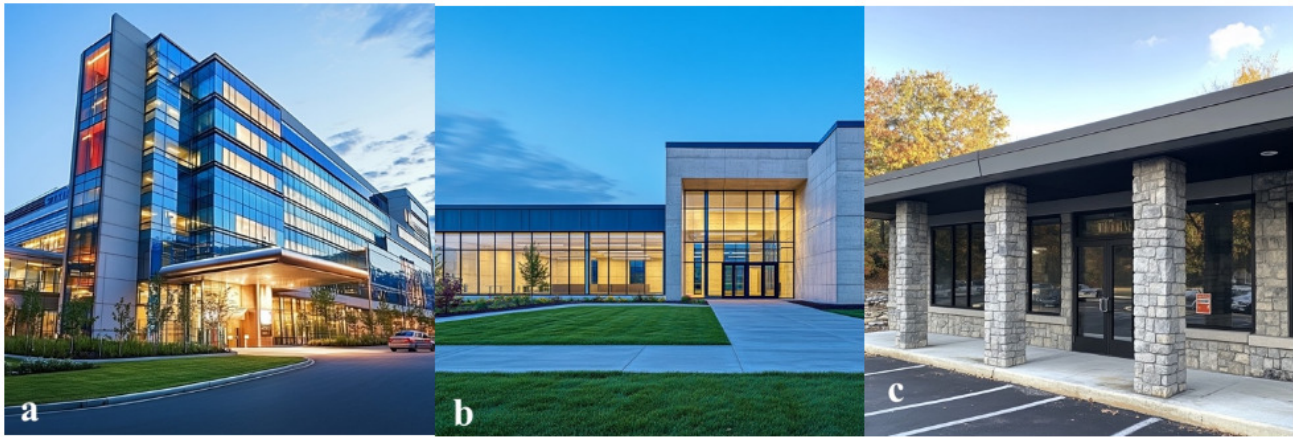


Figure 1. Hand surgeons currently perform surgeries in (a) hospitals, (b) free-standing ambulatory surgical centers, and now increasingly more commonly in (c) offices using wide-awake surgical techniques.

REVIEW

UNDERSTANDING MEDICARE VS PRIVATE INSURANCE REIMBURSEMENT

The interplay between government and private insurance payors complicates the US medical insurance payor model. Medicare⁴ is the federal health insurance program for Americans aged 65 or older or younger patients with certain disabilities and chronic conditions. Medicare was signed into law by President Lyndon B. Johnson in 1965 and has subsequently been insuring medical services for elderly Americans. Medicaid is also a federal program, managed at the state level, that provides similar medical services for Americans with limited income and resources. Medicare, managed by the Center for Medicare & Medicaid Services, sets a reimbursement strategy for all inpatient and outpatient services, surgical procedures, and physician professional fees.

Similarly, private insurance provides most of the health care needs of Americans under 65. However, there has traditionally been a differential in reimbursement rates between Medicare and private payor reimbursements for the same services and surgeries. There are several purported reasons for this differential, including Medicare being tax-funded versus premium-funded with private insurance, Medicare not having out-of-pocket limits, and Medicare providing medical services at the end of life, which is broadly more costly. The difference in reimbursement varies, but a recent Kaiser Family Foundation analysis found that generally, private insurance paid 199%, 246%, and 143% of Medicare rates for inpatient, outpatient, and physician fees, respectively.⁵

TOTAL COSTS FOR A CARPAL TUNNEL RELEASE SURGERY

The total costs of providing a CTR surgery vary widely both across and within states. Brodeur et al.⁶ reported that in New York state, the average total cost for a CTR was \$4,865, ranging from \$2,378-\$8,606. Using the Healthcare Blue-

book, the total cost of a CTR surgery in Lansing, Michigan, is \$3,362, ranging from \$2,685 to \$16,585. MDsave,⁷ a company offering discounted CTR surgery, quotes a national average cost of \$7,306 for CTR surgery. CarpalRx⁸ quotes regional variation from \$4,962 in Maryland to \$8,937 in Wisconsin. SideCar,⁹ an online healthcare cost calculator, quotes \$2,197 at a surgery center versus \$3,351 at an outpatient hospital setting.

PHYSICIAN REIMBURSEMENT FOR A CARPAL TUNNEL RELEASE

Again, like any aspect of US health care reimbursements, there are considerable variations in surgeon reimbursement based on region and payor. For CTR surgery, using the Medicare Provider Utilization and Payment Data (2012-2013), Veltre et al.¹⁰ identified an average Medicare reimbursement to the surgeon of \$261-325 for an open CTR surgery and \$317-400 for endoscopic CTR surgery. In contrast, using Marketscan data, an online claims database that can be queried for healthcare research, from 2019-2021, Ekhtiari et al.¹¹ found that surgeons received \$617 for open CTR surgery and \$727 for endoscopic CTR surgery. These reimbursements represented a mix of Medicare and private insurance payments.¹²

A recent 2024 study by Kammien et al. investigated surgeon reimbursement for open CTR surgery, excluding general or regional anesthesia, using the 2010-2020 M91Ortho data set from PearlDiver.¹ This study examined the care location between the main operating room and the office environment with data from commercial, Medicare, and Medicaid payers. Raw data prior to matching demonstrated only 2% of the 309,204 CTR surgeries were performed in the office. Patients were then matched 4:1 on age, sex, Elixhauser Comorbidity scores, and geographical US region, finding 21,835 operating room CTR surgeries vs 5,459 office CTR surgeries. Based on these matched patients, they analyzed payments, narcotics utilization, and emergency department (ED) visits. They report that office-based surgery was associated with physician reimbursement falling by \$34, despite this group having significantly reduced costs

Table 1. Breakdown of carpal tunnel release (CTR) surgery fees in a hospital outpatient department (HOPD) vs ambulatory surgery center (ASC).⁹

CTR Surgery	HOPD	ASC
Facility fee	2150	996
Surgeon fee	541	541
Anesthesia fee	486	486
Total fee	3177	2023

directly through reduced total payments by eliminating and anesthesia and facility reimbursements and indirectly through decreased Emergency Department visits and narcotic prescriptions. They also found regional variation in physician reimbursement, with the Midwest receiving \$152 more than the South, \$63 more than the West, and \$147 more than the Northeast.

FACILITY REIMBURSEMENT FOR A CARPAL TUNNEL RELEASE

Brodeur et al. Found that hospital-based surgery was 48.2% more on average than surgery center-based surgery.⁶ Kam-mien et al. analyzed their data for expected positive or negative total disbursement cost variability by regression coefficient, finding a predicted \$915 cost reduction in total reimbursement for office-based CTR.¹ They observed a mean total disbursement of \$1767 for Commercial payers, \$1034 for Medicare, and \$837 for Medicaid. There was also considerable regional variation in their total disbursement data, demonstrating that the Midwest received \$404 more than the South, \$193 more than the West, and \$519 more than the Northeast.

Sidecar Health⁹ analyzed the estimated benefit of disbursement for CTR surgery by state relative to the surgery performed in a hospital outpatient department (HOPD) versus an ambulatory surgical center (ASC). An HOPD generally receives reimbursement rates equivalent to inpatient surgical rates. Their analysis also noted considerable variability between states. However, the average reimbursement rate is \$3,351 in an HOPD and \$2,917 in an ASC for CTR surgery, including the surgeon, anesthesia, facility, and other fees. Of note, no distinction was made between open versus endoscopic CTR surgery for facility reimbursement. However, a more granular breakdown of fees for this review can be found below in [Table 1](#).

OPPORTUNITIES

The analysis of the available reimbursement data highlights the ongoing variability and difficulty securing consistent figures to analyze costs available for surgeries, such as for CTR surgery. However, this data provides a reasonable foundation for analyses relative to wide-awake surgery. Taking the Sidecar health figures,⁹ which appear to be conservative in their estimates, what becomes evident is the profound savings potential. With an HOPD surgical en-

counter costing approximately \$3,000 and the same surgical encounter in an ASC yielding a cost of approximately \$2,000, the movement of smaller and shorter outpatient procedures such as CTR surgery over the past two decades is obvious from a cost savings perspective. Moreover, moving these smaller and less complex surgeries to an ASC not only reduces costs but also allows an HOPD to perform more complex surgeries warranting hospital care.

WALANT hand surgery is well positioned to follow this trend and take simpler procedures to the cheapest care location to drive savings further. Surgeons performing wide awake hand surgeries currently in either an HOPD or ASC are already decreasing costs borne by insurance payors by eliminating the facility fee by hosting the surgical care in their office and also removing the anesthesia fees by taking on the role of delivering anesthesia to the surgical site without requiring additional sedation or broader anesthesia services.

However, office-based WALANT hand surgery can further supercharge this paradigm. Estimating the CTR surgeon's fee based on the office location analyzed by Kam-mien et al.¹ averaged \$539 (range \$226 - \$1,024), rounded here for simplicity to \$500. Using Sidecars conservative estimates,⁹ performing a CTR surgery in the office rather than an HOPD or ASC results in an 83% (\$3,000 total fee to only the surgeon's fee of \$500) and 75% (\$2,000 total fee to only the surgeon's fee of \$500) savings, respectively, to insurance payors. About 500,000 CTR surgeries are performed yearly in the US, costing insurers over \$1 billion annually. A 75% cost cut could save \$750 million yearly from a single high-volume surgical procedure. Yet, there is little motivation for surgeons to transition to office-based surgery when there is a lack of financial incentive to voluntarily assume responsibility for the full episode of surgical care, including costs for office space, supplies, staff, and the patient experience. As the benefits of cost-effective, wide-awake surgery become clearer, there is an obvious opportunity for better payment models that encourage this efficient surgical approach through enhanced reimbursement to surgeons while still providing savings to patients and payers.

CONCLUSION

Wide-awake surgery is becoming more common in the US due to several potential advantages for payers, surgeons, and patients. For the patient, there is greater convenience and fewer complication risks. For the surgeon, there is greater efficiency and control. For the payer, there are fewer costs by eliminating anesthesia professional fees and facility fees. However, adoption has been slow for both wide-awake and office-based surgery due to a potential lack of financial incentives for the surgeon. Surgeons performing wide awake surgeries, such as WALANT hand surgeons performing high volume surgeries such as CTR surgery, are uniquely positioned to drive greater cost savings to patients and payers while also securing enhanced reimbursements for their increased services and overhead. As a healthcare community, we need to coordinate our efforts and share knowledge to maximize these opportunities.

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DECLARATION OF CONFLICT OF INTEREST

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DECLARATION OF ETHICAL APPROVAL FOR STUDY

IRB Approval is not required for the review of this current concept.

DECLARATION OF INFORMED CONSENT

There is no information (names, initials, hospital identification numbers, or photographs) in the submitted manuscript that can be used to identify patients.

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