

# Perioperative Management of Antithrombotics in Cubital Tunnel Decompression: A Retrospective Analysis of Bleeding Complications

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**Introduction:** Cubital tunnel syndrome (CuTS) is the second most common compressive neuropathy with an incidence of 30 per 100,000 person-years with a higher occurrence in men and older age groups<sup>1</sup>. Complication rates are low in cubital tunnel release (CuTR) averaging around 7.4% and risk of bleeding or post-operative hematoma can be as high as 15%<sup>2-6</sup>. Recently, several studies have looked at the bleeding risks in hand and wrist surgeries, and concluded that continuing AT use in carpal tunnel surgery is safe<sup>6-13</sup>. However, these studies contained either low evidence or low case numbers of CuTR surgeries to give specific recommendations regarding perioperative AT management. No study has independently examined ulnar nerve decompression with or without transposition in relation to perioperative management of ATs. The purpose of this study was to determine the rate of bleeding complications after cubital tunnel release surgeries (to include in situ decompression and transpositions) on patients who are taking antithrombotic medications (AT) at a single, urban, tertiary care referral center.

**Methods:** Adult patients who underwent operative intervention for cubital tunnel syndrome treated at our center from 2014 to 2024 were included for chart review. Complication rates were compared among those not on antithrombotics (no-AT), those who stopped them preoperatively (stop-AT), and those who continued them perioperatively (cont-AT). Complication rates by antithrombotic status were compared using Chi-square tests, followed by multivariable logistic regression adjusting for demographics, comorbidities, smoking status, and surgery types.

**Results:** A total of 455 patients were included in this study (351 in no-AT, 16 stop-AT, and 88 cont-AT). The overall complication rate was 48.8%, including wound dehiscence (4.4%), delayed wound healing (2.9%), ecchymosis (2.2%), and hematoma (1.5%). Antithrombotic use was not significantly associated with wound healing or dehiscence complications. However, hematoma rates were higher among anticoagulated patients (p = 0.008), and this remained significant after adjusting for demographics, comorbidities, smoking status and surgery type (p = 0.01). Subgroup analysis indicated the association was limited to in situ decompression (0% in no-AT, 12.5% in stop-AT, and 6.0% in cont-AT; p <0.001), with no hematomas observed in endoscopic decompressions and no significant differences in the transposition groups (p = 0.859).

**Discussion:** Overall complication rates were similar regardless of antithrombotic status with no significant differences in wound healing or wound dehiscence. These results demonstrated a statistically significant increase in hematoma formation among patients receiving AT therapy; however, there was no significant difference if the patient stopped or continued therapy. In conclusion, bleeding complications in cubital tunnel surgery were uncommon among patients receiving antithrombotic therapy and occurred even when these medications were held pre-operatively.

**Significance/Clinical Relevance:** This study suggests that it is safe to continue AT in CuTR without concern for increased rates of postoperative complications.

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Table 1: Complications

Any Complication	All Patients	AT-No	AT-Stop	AT-Cont	p-value
Wound healing issue	13(2.9%)	9(2.6%)	1(6.3%)	3(3.4%)	0.648
Wound dehiscence	20(4.4%)	14(4.0%)	2(12.5%)	4(4.6%)	0.267
Hematoma	7(1.5%)	2(6.3%)	1(6.3%)	4(4.6%)	0.008*
Ecchymosis	10(2.2%)	7(2.0%)	0(0%)	3(3.4%)	0.598
<b>Hematoma rate by Surgery Type</b>					
In situ	282 (1.77%)	0	1 (12.5%)	4 (5.97%)	<0.001*
Transposition	131 (1.5%)	2 (1.75%)	0	0	0.859

Table 2: Logistic Regression Results by Surgery Type

In Situ Nerve Decompression				Transposition Surgery			
Variable	Odds Ratio	95% CI	p-value	Variable	Odds Ratio	95% CI	p-value
<b>Antithrombotic</b>							
AT-Stop vs AT-No	1.66	0.06 – 46.1	0.766	AT-Stop vs AT-No	–	–	not estimable
AT-Cont vs AT-No	61.6	2.0 – 1857.0	0.018*	AT-Cont vs AT-No	–	–	not estimable
Age (per year)	0.92	0.84 – 1.01	0.078	Age (per year)	1.01	0.93 – 1.11	0.757
Sex (M vs F)	1.44	0.15 – 14.0	0.753	Sex (M vs F)	1.05	0.06 – 17.6	0.974
CAD	1.06	0.09 – 12.3	0.964				
HTN	0.21	0.01 – 3.16	0.257				
Hyperlipidemia	1.76	0.14 – 22.3	0.665				
Diabetes	3.39	0.35 – 33.4	0.295				