

# Long-term Prescribing of Anticoagulation after Catheter Ablation for Atrial Fibrillation

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## BACKGROUND

Although atrial fibrillation (AF) is strongly associated with death and disability from stroke, studies have shown suboptimal use of anticoagulation (AC). In particular, there is a lack of data on the long-term use of AC after AF ablation. We followed up patients 1-5 years out from catheter ablation of AF at the Johns Hopkins Hospital (JHH) to assess their long-term use of AC.

## METHODS

We sent a follow-up survey to patients from the JHH AF database who underwent an AF catheter ablation between 01/01/2014 and 03/31/2018. Patients were asked to report whether they were still on AC, if they thought the ablation had been successful in controlling their AF symptoms and whether they had any follow-up rhythm monitoring. Replies were compared to risk scores and demographic data derived from the electronic medical record.

## RESULTS

We identified 628 patients in the database meeting our inclusion criteria. These patients were sent our follow-up survey by US mail and we received 289 responses. The average age of patients was  $67.4 \pm 10.0$  with a median CHADSVASC score of 2 [1-3] and a median follow-up duration of 3.6 [2.2-4.3] years (**Table 1**). Overall, 81.6% of patients with a CHADSVASC score > 2 reported taking AC (**Table 2**). Use of AC was positively correlated with a higher CHADSVASC score ( $p=0.012$ ) and older age ( $p=0.028$ ), but negatively correlated with a successful ablation ( $p=0.040$ ) (**Table 3**). The most common reason (50.0%) reported for not being on AC was that doctors were recommending stopping it after a successful ablation (**Table 4**).

## CONCLUSION

The majority of patients with a CHADSVASC score > 2 remained on AC post AF ablation after a mean follow-up of more than 3 years. In general, higher-risk patients (older, higher CHADSVASC score) were more likely to remain on AC. However, patients who self-reported a successful ablation were less likely to remain on AC. There may be a considerable number of patients who can tolerate AC, but are recommended to stop due to having a successful ablation. It is still debated how successful AF ablation affects stroke risk, and there is considerable practice variation in the long-term management of AC after an ablation. Further prospective studies are required to define an optimal management strategy.

Most patients (81.6%) with a CHA<sub>2</sub>DS<sub>2</sub>-VASc score of 2 or higher remained on anticoagulation at a median of 3.6 years post-ablation, with higher risk patients (older, higher CHA<sub>2</sub>DS<sub>2</sub>-VASc) more likely to continue anticoagulation.

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## DISCUSSION

There is considerable practice variation in the management of AC over the long-term after an AF ablation. Most patients remain on AC long-term after ablation, however patients who have symptomatically successful ablation are more likely to be taken off AC, and current literature is conflicting about their actual stroke risk. In light of the ever-growing AF population, and the increasing rates of catheter ablation, this is an important question. Further prospective studies should be undertaken to define the optimal AC strategy for these patients.

TABLE 1

### Patient Baseline Characteristics

N	289 responses out of 628
Sex = Male (n, (%))	185 (64.0%)
Race = White (n, (%))	259 (88.9%)
Age	67.4 ± 10.0
BMI	29.6 ± 5.9
CHADS-VASC score	2 [1-3]
Follow-up (years)	3.6 [2.2-4.3]
Paroxysmal Atrial Fibrillation	183 (63.3%)

BMI: Body mass index.

TABLE 2

### Use of anticoagulation by CHADS-VASC score<sup>1</sup>

CHADS-VASC score	# of patients	# of patients on AC	% on AC
0	48	6	12.5
1	51	27	52.9
2	78	56	71.8
3	61	53	86.9
≥ 4	51	46	90.2
2 and above	190	155	81.6

AC: Anticoagulation.

TABLE 3

### Correlation between patient characteristics and anticoagulation use

Variable	On AC N = 155	Off AC N = 35	P-value
BMI	30.2 ± 6.6	28.2 ± 5.0	0.051
CHADS-VASC score	3 [2-4]	2 [2-3]	<b>0.012</b>
Age	72.0 ± 7.3	68.0 ± 9.7	<b>0.028</b>
Race = White	90.3%	91.4%	0.84
Involvement of EP	70.5%	69.7%	0.93
Sex = Male	49.7%	60.0%	0.27
CHF	9.7%	14.3%	0.42
HTN	78.1%	80.0%	0.80
DM	25.2%	22.9%	0.78
CVA/TIA	12.9%	11.4%	0.81
CAD/VASC	21.3%	20.0%	0.87

BMI: Body-mass index. CAD/VASC: Coronary artery disease/peripheral vascular disease history.

CHF: Congestive heart failure. CVA/TIA:

Cerebrovascular accident/Transient ischemic attack.

DM: Diabetes mellitus. EP: Electrophysiology.

HTN: Hypertension.

TABLE 4

### Patient-reported reasons for being of anticoagulation

Reason for being off AC	# of patients	% of patients*
My doctor told me I was low risk for stroke.	5	14.7
My doctor told me I did not need it since I was not having any more atrial fibrillation	17	50.0
My doctor took me off it because of problems with bleeding.	5	14.7
I did not think I needed it because I was not having any more atrial fibrillation.	5	14.7
I had concerns about taking blood thinners long-term	6	17.6
Another reason	5	14.7

\*Some patients reported multiple reasons, so these do not sum to 100%.

## DISCLOSURE INFORMATION

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