



Highlights from:

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Fluorless Catheter Ablation of Cardiac Arrhythmias: A 5 Year Experience

INTRODUCTION

- ▶ This five-year retrospective analysis examined 500 consecutive patients who underwent fluorless cardiac catheter ablation from December 2010 to March 2016.

METHODS

- ▶ All transeptal punctures were done under intracardiac echocardiography (ICE) and three-dimensional (3D) mapping system guidance without the use of fluoroscopy.
- ▶ A combination of intracardiac electrograms, electroanatomic mapping (EAM), and ICE were used to position therapeutic and diagnostic catheters.
- ▶ 639 arrhythmias were ablated, including atrioventricular reciprocating tachycardia, atrioventricular nodal reentrant tachycardia, atrial fibrillation, premature ventricular contractions, and ventricular tachycardia.

RESULTS

- ▶ The average ablation length was 151.1 min (range of 22–501 min), with the mean procedural time decreasing with user experience (Figure 1). Using a conservative estimate of 10 min of fluoroscopy time in a standard case, 83 hours of continuous fluoroscopy time was eliminated. Removal of fluoroscopy also allowed pregnant staff members to continue to work.
- ▶ Arrhythmia recurrence rates were in line with previously reported recurrence rates for fluoroscopy-guided ablations of various types of arrhythmias.
- ▶ The overall rate of major complications involving ablations for all types of arrhythmias was observed to be lower without fluoroscopy than using fluoroscopy (1.0% vs. 2.9%–3.8%, respectively), even though there was a slightly higher rate of major complications observed with nonfluoroscopic ablations for focal atrial tachycardia (1.7%) compared to the traditional fluoroscopy-guided approach (0.8%).

CONCLUSIONS

- ▶ This study confirms that the use of new imaging and mapping technologies have enabled nonfluoroscopic ablations for a variety of arrhythmias without increasing procedural time, and without compromising safety and efficacy.
- ▶ Nonfluoroscopic ablation eliminates radiation exposure and could decrease the risk of orthopedic injury.

Procedure Time

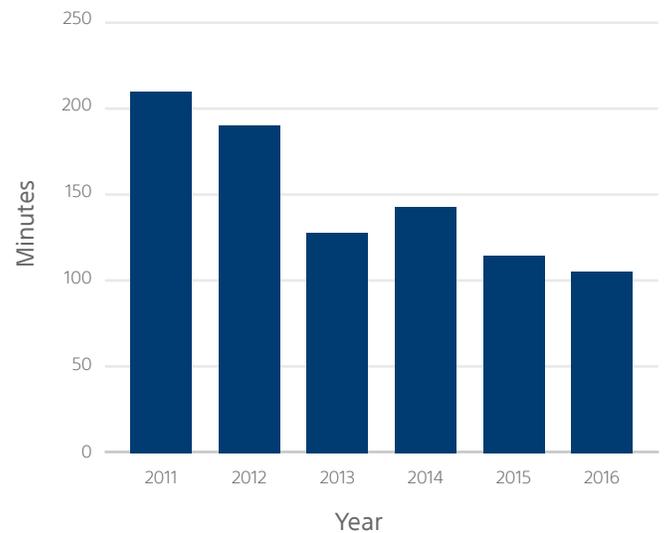


Figure 1. Mean Procedure duration in minutes by year: 2011 (209.6 min), 2012 (189.8 min), 2013 (127.4 min), 2014 (142.4 min), 2015 (114.2 min), and 2016 (105.3 min).

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