

**Title:** Figure-of-eight Suture with Stopcock for Venous Access Hemostasis: A Safe and Effective Method

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## **Background**

Catheter ablations are performed for multiple electrophysiology procedures, including atrial fibrillation, atrial flutter, and supraventricular tachycardia. One of the more common complications following catheter ablations are vascular access-related complications. The current standard of care to achieve hemostasis following a catheter ablation is to use manual compression of the access site followed by keeping the patient supine and immobile for at least four hours. This study aims to evaluate the efficacy of using a figure-of-eight suture for hemostasis in patients after catheter ablation with a focus on shortening flat time without compromising safety.

## **Methods:**

The population studied was a randomized, retrospective cohort of 50 patients. Data for this study was obtained via chart review. Inclusion criteria included patients who underwent catheter ablation for either atrial fibrillation, atrial flutter, atrial fibrillation and atrial flutter, supraventricular tachycardia, ventricular tachycardia, or premature ventricular complexes requiring venous vascular access. Closure was performed by placing a figure-of-eight suture using 0 silk with a high-pressure 3-way stop-cock for hemostasis. The sutures were to be removed at two hours and the bed elevated with ambulation 30 minutes after. Nursing staff in the PACU were trained to remove the sutures, further improving efficiency and enhancing safety. The outcomes measured were separated by the number of access sites (1-5) and included total bedrest time, BMI, time to discharge, and bleeding events.

## **Results:**

In this population, there was one patient with one access site, and this patient's total bedrest time was 4.57 hours with no same day discharge. Three patients had two access sites, and the total bedrest time was  $2.47 \pm 0.04$  hours with 3 (100%) patients discharged on the same day. Twelve patients had three access sites, and the total bed rest time was  $4.23 \pm 0.07$  hours with 8 (66%) patients discharged on the same day. Twenty-two patients had four access sites, and the total bed rest time was  $4.32 \pm 0.14$  hours with 16 (73%) patients discharged on the same day. Twelve patients had five access sites, and the total bedrest time was  $4.08 \pm 0.07$  hours with 7 (58%) patients discharged on the same day. No bleeding events were reported in any patients.

## **Conclusions:**

The results for total bedrest time, time to discharge, and number of bleeding events indicate the use of a figure-of-eight suture is both a safe and cost-effective option for patients following catheter ablation.