

Transseptal Crossing with NAGARE: Interview with Usman R. Siddiqui, MD

Interview by Jodie Elrod



Dr. Usman Siddiqui

Usman Siddiqui, MD is an electrophysiologist with Florida Cardiology in Orlando, Florida. In this feature interview, he discusses his experience with the NAGARE Steerable Sheath (Terumo).

Tell us about your EP program.

Florida Hospital has one of the largest and busiest electrophysiology centers in Florida. We perform more than 500 atrial fibrillation (AF) ablations and more than 1000 device implantations per year. We have a total of six labs; four of them are fully equipped ablation labs, two of them have biplane, and one has the Stereotaxis remote magnetic navigation system. Florida Hospital also has one of the busiest heart transplant centers in the country.

What type of EP procedures do you perform?

What is the case volume?

We perform a wide variety of electrophysiological procedures ranging from leadless pacemakers to complex ventricular tachycardia (VT) ablations in patients with left ventricular assist devices. The most common ablations are for paroxysmal and persistent AF using different energy sources including cryoablation and RF ablation. We also perform left atrial appendage occlusion with WATCHMAN device (Boston Scientific) procedures. We are a large referral center for VT ablations, including endocardial and epicardial. I personally perform about 150 AF ablation cases, 300 device implants, and 50-75 VT ablations per year.

How long have you been using the NAGARE Steerable Sheath?

I've been using the NAGARE Steerable Sheath for the last six months. I'm very impressed by it. One of the things we learned early on in our practice is that success in ablation procedures depends a lot on how stable the lesions are. Electrophysiological procedures are performed on a beating heart, so the heart and lungs are in constant motion. In order to achieve durable and long-lasting lesions, catheter stability is of extreme importance. A steerable sheath provides this catheter stability and consistency.

How many cases have you done with it? What types of cases do you utilize with the NAGARE?

I've done approximately 60 cases so far with the NAGARE. The main cases in which I use the



Florida Hospital Orlando Electrophysiology Department:
Back row: Jeff Durichek, RN; Kristina Aharon, RCIS; Lauren Day, RN; Melissa Matre, RN.
Front row: Vanessa Turnbull, ARNP; Danielle Wilson, RN; Cindy Tipton, RN; Amber Arnold, RN, RCIS (Supervisor); Usman Siddiqui, MD; Amber Wilhelm, RCIS; Melissa Martinez; Oria Jordan, RCIS; Paula Carrera, RN (Educator); Fei Han, RTT.

NAGARE are for placement of WATCHMAN devices, supraventricular tachycardia ablations, atrial flutter, and AF ablations.

How does NAGARE differ from other steerable sheaths, from a design standpoint? What do you believe are the clinical benefits of this design?

There are certain specific properties that we look for in a steerable sheath. One of the most important features is the transition between the dilator and sheath. While introducing a bigger sheath in the femoral vein or performing a transseptal puncture via an intact septum, the transition between the dilator and sheath needs to be extremely smooth. In our experience, we have found that the NAGARE sheath provides a very smooth transition. A second important feature in a deflectable sheath is its responsiveness. This refers to the translation of force from handle to deflection. The responsiveness of the NAGARE sheath is very robust, which means that when I deflect the sheath, it deflects the amount that I expect it to. Stability is another important feature in a deflectable sheath. The NAGARE sheath appears to be extremely stable and maintains catheter contact during lesion delivery. The NAGARE sheath's torqueability is also excellent. Finally, the angle of deflection is important; the NAGARE sheath can be deflected almost 180 degrees on its axis, thus making it easier to reach right-sided veins.

What are your biggest challenges when crossing transseptal? What specifically about NAGARE helps you improve transseptal crossing?

As you know, we do a lot of complex ablations, including redo ablations from other institutions. When the septum has been crossed several times, getting the sheath across can sometimes be tough, so you really need a sheath where there is a minimum transition between the dilator and sheath so that even a thick septum can be easily crossed.

The location of transseptal is also critical for obtaining satisfactory results. For example, in cryoballoon ablation cases, it is best to cross anteroinferiorly; while in WATCHMAN implantation cases, it is best to cross inferoposteriorly. Given its deflection mechanism, the NAGARE sheath helps with achieving that critical spot to cross the septum.

How does it impact the end result of cases?

It has been excellent. Because of the reliability, robustness, and stability of the NAGARE Steerable Sheath, I am able to deliver durable lesions during ablation, providing a long-lasting cure and success to my patients.

When doing left-sided structural heart procedures, how important is the angle at which you cross transseptal?

The angle is of utmost importance. For example, if I'm using cryo, I usually like to cross a little bit low and posteriorly. Similarly, if I'm doing a VT ablation and I have to cross through the ventricle, I usually go low and more anteriorly. If I'm trying to use mainly RF, then I try to go even more posteriorly towards the left-sided pulmonary veins. Therefore, the angle at which I cross determines how efficient and how well our procedure will go.



NAGARE Steerable Sheath (image provided courtesy of Terumo Medical Corporation)

Can you provide some specific examples how NAGARE improved stability, contact, or control in your cases?

I just recently performed a complex case of atrial flutter ablation in a patient who was obese and had an extremely large atrium. I was able to get groin access and the sheath in very easily, and then get to the tachycardia isthmus. The catheter was so stable in my ablation catheter through the NAGARE sheath, that I was able to ablate flutter with only five lesions in a line of block in about 5-6 minutes, which would typically take about 15-25 minutes.

Similarly, I used a NAGARE sheath in a VT and WATCHMAN case in which the septum appeared to be really thick, but the NAGARE sheath was able to cross it very briskly. I was able to transition over to the WATCHMAN sheath and deliver the WATCHMAN device. The location of puncture in both of these cases significantly shortened my procedure time.

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