



Preparing The Electrophysiology Lab to Treat Atrial Fibrillation

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Introduction

In the past few years every lab has been looking for new procedures to perform. The latest procedure is Atrial Fibrillation due to the number of patients which has this arrhythmia. Besides just ordering the catheters needed for treatment of atrial fibrillation, the equipment in the electrophysiology lab is another important aspect of performing this procedure safely and efficiently.

Scheduling

The main impact of the treatment of atrial fibrillation is lab time. Only one procedure should be scheduled per day until the procedure time decreases to 4 hours or less. CT should be done on the patient with the left atrium segmented out and changed into a format which your 3D mapping system can import. Or you need to be able to display it on a monitor during the procedure for a visual reference.

Procedure setup

All patients undergoing this type of procedure should have a CT prior to the exam. This is needed for the physician to view the anatomy, check for pulmonary vein stenosis and to use as a visual guide or import into a 3D mapping system. It is a definite plus if the 3D mapping system can merge or fuse the CT to a workable map of the patients anatomy. Standard procedure equipment is used to monitor the patient during the procedure, including blood pressures, Oxygen saturation, Respira-

tory rate, LA pressures from transeptal sheaths, ACT and Neurological function.

Radiation exposure

Wall precautions should be taken to reduce the amount of fluoro scatter by placing lead protective drapes along the patient table and providing lead shields for all staff members. It is very common to have fluoro time well above 60min, although the uses of 3D mapping systems can help reduce the amount of fluoro used during these procedures. Adjusting you dose and managing the shutters and cardiac filters can also reduce the amount of radiation. When working on younger patients a protective lead drape should be used to protect the reproductive organs. During this procedure distance from the patient scatter will reduce the radiation dose the staff members may receive.

Recording system

The standard recording system, EPWorkMate (EPMedSystems), CardioLab IT (GE Healthcare) or Lab System[®], PRO (Bard Electrophysiology) can be used as long as you have enough channels for the intercardiac electrograms. Any standard stimulator which works with your recording system can be used without any modifications.

Intracardiac echocardiography

The use of Intracardiac Echocardiography (ICE) will be used multiple times during the proce-

dure. It will be used to view the fossa ovals for the single or dual transeptal puncture. It will allow the user to take a look at the pulmonary veins to check for stenosis and verify location. It also gives the physician another tool to check for pericardial effusion, and atrial appendix clots before and after the ablation procedure.

Mapping systems

It is important to have a 3D mapping systems with the ability to import preoperative images for

use with reconstruction of the patient's anatomy. The mapping systems will be used to track the locate ablation lesions to provide a visual reference of areas which have been treated. There are two systems which are used most often today, ESI (Endocardial Solutions) and Carto (Biosense Webster). Both of these 3D mapping systems give the ability to interact with the CT during the procedure. These two systems also give you the ability to take a few anatomical points and align the CT to the patient's anatomy.