What are the risks and potential complications?

The EPS and RFA procedures are safe. Most complications are minor, such as pain, swelling, bruising and bleeding from the puncture sites. Occasionally the procedure itself may induce the occurrence of an abnormal heart rhythm that may require an electric shock to terminate. Very rarely, major complications such as infection and damage to the normal conduction system or blood vessels may occur.

Robotic Catheter Ablation Service

The EPS Robotic Catheter system is the first such system to be used in Southeast Asia. Its introduction to NUHCS will greatly benefit heart patients in Singapore and the region, offering them a more advanced and precise treatment option.

The advanced technology in the EPS Robotic Catheter system provides a unique, enhanced navigational precision and stability to maneuver a catheter. It provides a degree of control which is not possible with a standard manually-operated catheter. Additionally, it allows for direct measurement of the force applied to the heart surface through the ablation catheter, crucial to the efficacy and safety of the procedure.

The benefits include:
- Superior catheter stability and precision translating to higher success rates
- Ability to reach previously difficult to reach locations in the heart
- Shorter procedure times
- Reduced amount of patients and staff’s exposure to radiation

Every day, we save lives by providing financial relief to needy patients, funding groundbreaking research and giving training to our medical specialists. This is why the support we receive is essential.

Make a donation and help us continue the fight for every heartbeat!

For more information, log on to www.nuhcs.com.sg/about-us/make-a-gift.htm

Contact Information
National University Heart Centre, Singapore
1 Main Building, Angiography Centre, Level 2.
Opening Hours: 8.30 am - 5.30 pm (Monday - Friday)
Closed on Weekend & Public Holidays
Website: www.nuhcs.com.sg

Getting to NUH
Circle Line Kent Ridge MRT Station
Commuters can transit at the Buona Vista MRT Interchange and alight two stops after at the Kent Ridge Station. The station will be served by three exit-entry points.
Exit A: Right at the doorstep of National University Heart Centre, Singapore.
Exit B: Along South Buona Vista Road, which links to Singapore Science Park 1.
Exit C: Leads to NUH Medical Centre.

Information in this brochure is given as a guide only and does not replace medical advice from your doctor. Please seek the advice of your doctor if you have any questions related to the surgery, your health or medical condition. Information is correct at time of printing (July 2014) and subject to revision without notice. Copyright© is held by the publisher. All rights reserved. Reproduction in whole or in parts without permission is strictly not allowed.
Heart Rhythm Disorders (Arrhythmias)

Your doctor suspects or has determined that you have heart rhythm abnormalities, also called arrhythmias. Arrhythmias are often the result of electrical ‘short circuits’ in the heart. When your heart beats abnormally fast or slow, you may experience dizziness, light-headedness, fatigue, palpitations, shortness of breath, chest pain or a fainting spell.

What is Electrophysiology Study? (EPS)

The EPS is used to study the electrical conduction system of the heart, and to detect abnormal conduction that may be responsible for heart rhythm disturbances, which produce your symptoms, and determine the best treatment.

An EPS uses one or more catheters (thin, flexible wires) threaded through a vein leading to your heart. The electrical behavior of the heart that is responsible for controlling your heartbeat is recorded by the conducting wires (or leads) positioned at strategic locations within your heart. Through these leads the electrical conduction of the heart can be studied, and abnormal conduction can be identified. EPS is also useful in monitoring how effective medications are in controlling abnormal heart rhythms.

What is Radiofrequency Ablation (RFA)?

An ablation catheter connected to a specialized device is placed next to the abnormal tissue. Precisely delivered radiofrequency energy is sent from the catheter to the abnormal tissue cells. This energy eliminates the abnormal area and creates a tiny scar in its place. This prevents the abnormal cells from interfering with the heart’s normal electrical pathway and restores the heart to a normal rhythm. In most cases, an RFA procedure can be completed at the same time as an EPS. Your doctor will tell you if you are scheduled for either an EPS, or a combination of both EPS and RFA.

What can I expect before the procedure?

- Your doctor will discuss the goals and risks of the procedure with you and you will be required to sign a consent form once you are agreeable with the procedure.
- Tell your doctor about allergies to medications, particularly any allergies to X-ray contrast or any heart rhythm medications and pain-relieving medications you are currently taking.
- Follow your doctor’s directions about medications. Your doctor may advise you to stop taking certain medications before your EPS. Please do check with your doctor.
- Admitting the day before the test. You may be required to stay in the hospital for up to 2 days after the procedure, though if deemed well, you may be discharged the next day.
- You will be required to fast from midnight on the day of the test till the procedure is completed.
- Some preparatory blood tests and an electrocardiogram (ECG) will need to be performed.
- For women of childbearing age, a urine pregnancy test may be carried out. Pregnant women should not undergo this procedure due to the exposure to X-ray radiation.
- Just before the EPS / RFA procedure, your groin and chest may be shaved.

What can I expect during the procedure?

- The EPS typically takes about 1 to 2 hours or longer for complex cases. A combined EPS/RFA procedure may take 3 to 4 hours.
- Medication is given to help you relax or sleep through an IV plug, which is inserted in one of the veins of your hand to facilitate injections of medication during the test, if necessary.
- The procedure is largely painless, except during the initial injection of the local anaesthetic. The injection usually feels like a pinprick with some burning, and lasts for only a few seconds.
- Several leads will be advanced through your groin as well as the neck or arm, into the heart using an X-ray to guide the position of the wires.
- When the leads are placed at the desired locations in the heart, the cardiac electrophysiologist (a trained specialist performing this test) will record the electrical activities of your heart, as well as stimulate your heart with mild electrical current to observe the response.
- You may experience palpitations (a sensation of the heartbeat) during this test. Measurements recorded during the event help doctors determine the cause of your arrhythmia, where it starts, and choose the best method of treatment.
- When the examination is completed, the leads will be removed and the tiny wounds at the puncture sites will be compressed for a few minutes to stop any bleeding. These wounds should heal within a few days.

What can I expect after the procedure?

- You will need to lie in bed for about 4-8 hours.
- Avoid moving the limbs where the leads had been inserted, so that the blood vessels will heal rapidly, and bleeding may be avoided.
- If you feel pain or swelling in the insertion site, inform the nurse. Painkillers will be prescribed if necessary.
- You will be able to go home the next day.
- Medical leave may be issued so that you can rest at home for a couple of days. You should be able to resume most of your usual activities on the day after discharge.
- Leave the puncture wounds covered with the waterproof plaster for 2 days, after which the plaster can be removed. Thereafter, the wounds can be left exposed.