



National University
Heart Centre
Singapore



Cardiac Electrophysiology Study (EPS) and Radiofrequency Ablation (RFA)

Scan the QR code to view patient education videos
on NUHCS **You Tube** channel!

STEP
01



STEP
02



Download a FREE
QR Reader on your
smartphone and
scan the QR code.

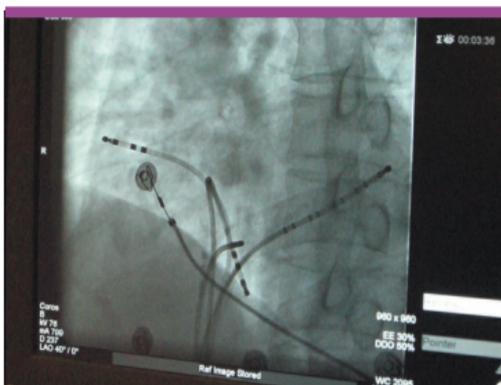
The QR code will decode
instantly. You'll be brought to
[www.youtube.com/user/
NUHCS](http://www.youtube.com/user/NUHCS)



Scan here

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. These may result in dizziness, light-headedness, fatigue, palpitations, shortness of breath, chest pain or a fainting spell.



An X-ray showing the wires, or leads, in the heart.

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, and determine the best treatment.

An EPS uses one or more catheters (thin, flexible wires) threaded through veins 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 within your heart. Through these leads, the electrical conduction of the heart can be studied and abnormal connections can be identified.

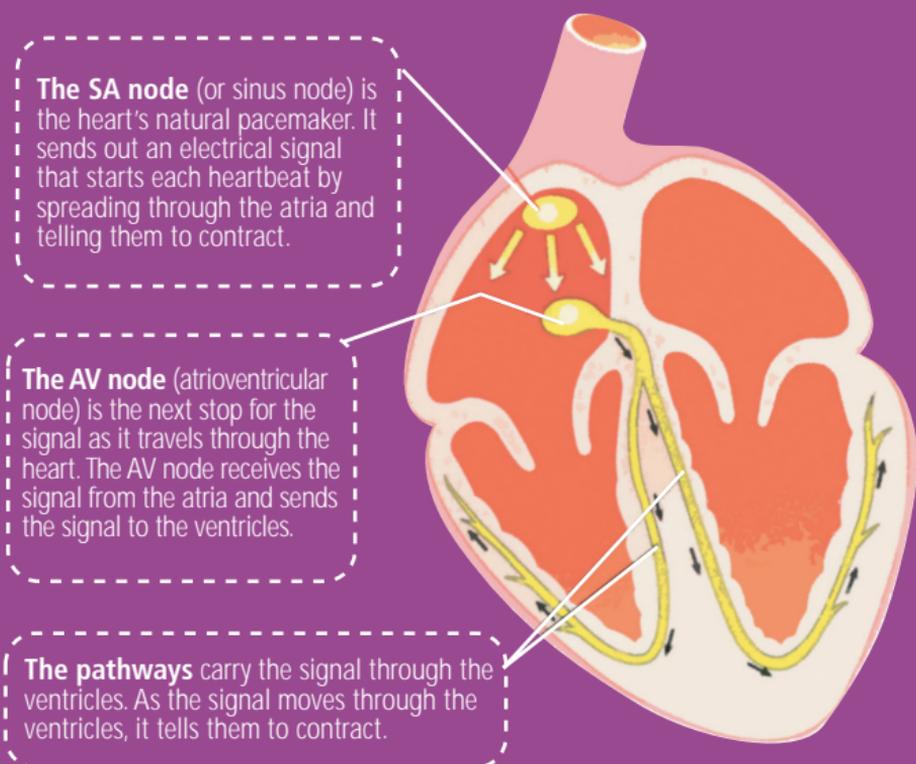
What is Radiofrequency Ablation (RFA)?

An ablation catheter 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?

- 1 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.
- 2 **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.
- 3 **Follow your doctor's directions about medications.** Your doctor may advise you to stop taking certain medications before your EPS.
- 4 **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.
- 5 You will be required to **fast from midnight** on the day of the test till the procedure is completed.
- 6 Some preparatory **blood tests and an electrocardiogram (ECG)** will need to be performed.
- 7 For women of childbearing age, a **pregnancy test** may be carried out. Pregnant women should not undergo this procedure due to the exposure to X-ray radiation.
- 8 Just before the EPS / RFA procedure, your **groin and chest may be shaved.**



What can I expect during the procedure?

- 1 The EPS typically takes about **less than 1 hour** or longer for complex cases. A combined EPS/RFA procedure may take up to **3 to 4 hours**.
- 2 Medication is given through an intravenous (IV) plug to help you relax or sleep.
- 3 The procedure is largely painless, except during the initial injection of the local anaesthetic which feels like a pinprick.
- 4 Several catheters will be advanced through your groin, into the heart using X-ray to guide the position of the wires.
- 5 When the catheters 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.
- 6 You may experience palpitations 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.
- 7 When the examination is completed, the catheters 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?

- 1 You will need to lie in bed for about 4 to 8 hours.
- 2 Avoid moving the limbs where the leads have been inserted, so that the blood vessels will heal rapidly and bleeding may be avoided.
- 3 If you feel pain or swelling in the insertion site, do inform the nurse. Painkillers will be prescribed if necessary.
- 4 You will be able to go home the next day.
- 5 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.
- 6 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.

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. Very rarely, major complications such as infection and damage to the normal conduction system or blood vessels may occur.



Location



Contact Information

National University Heart Centre, Singapore

NUH Main Building Zone F, F02-03, Angiography Centre

Opening Hours: 7.00 am - 4.30 pm (Monday - Friday)

Closed on Weekend & Public Holidays

Tel: (65) 6772 2256

Email: reception_angiography@nuhs.edu.sg

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 is 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 (Nov 2021) 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.



Scan here to donate

Every day, we impact lives by providing assistance to financially disadvantaged patients. Help us continue our vital work and fight for every heartbeat through your generous support!

To make a donation, log on to <https://www.giving.sg/nuhs-fund-limited/> **NUHCSHeartFund** or scan the QR code.