

## Preparing for a Cardiac Electrophysiology Study

1. Your doctor may advise you to stop taking certain medications before your EPS. Please check with your doctor.
2. Bring some reading materials or other portable audio-visual materials for your hospital stay as you will be spending much of your time in bed.

## What are the Potential Risks?

EPS is a very safe procedure. Some potential risks include:

- Minor complications such as pain, swelling, bruising and bleeding from the puncture sites.
- Major complications such as infection and damage to blood vessels rarely occur. These complications can usually be treated without permanent injury.
- Occasionally, the procedure may induce abnormal heart rhythm that may require an electric shock to bring back a normal heartbeat.
- During radiofrequency ablation, parts of the heart required for normal electrical conduction may be damaged, leading to an especially slow heart rhythm. This complication is extremely rare. However, if it persists, a pacemaker implantation will be required.

## When Will I Know the Results?

The results and the next step of your treatment will be discussed at the next appointment with your doctor.

### LEVEL 3 TTSH MEDICAL CENTRE

- The Cardiac Centre
- Clinic 3A (Cardiology, Cardiac Ambulatory Services, Cardiac Rehabilitation Gym)
- Clinic 3B (The Heart Atrium, Cardiac Imaging Centre)

### LEVEL 3 EMERGENCY (A&E) BLOCK

- Invasive Cardiac Laboratory

#### CONTACT:

6537 7000 (All Appointments)

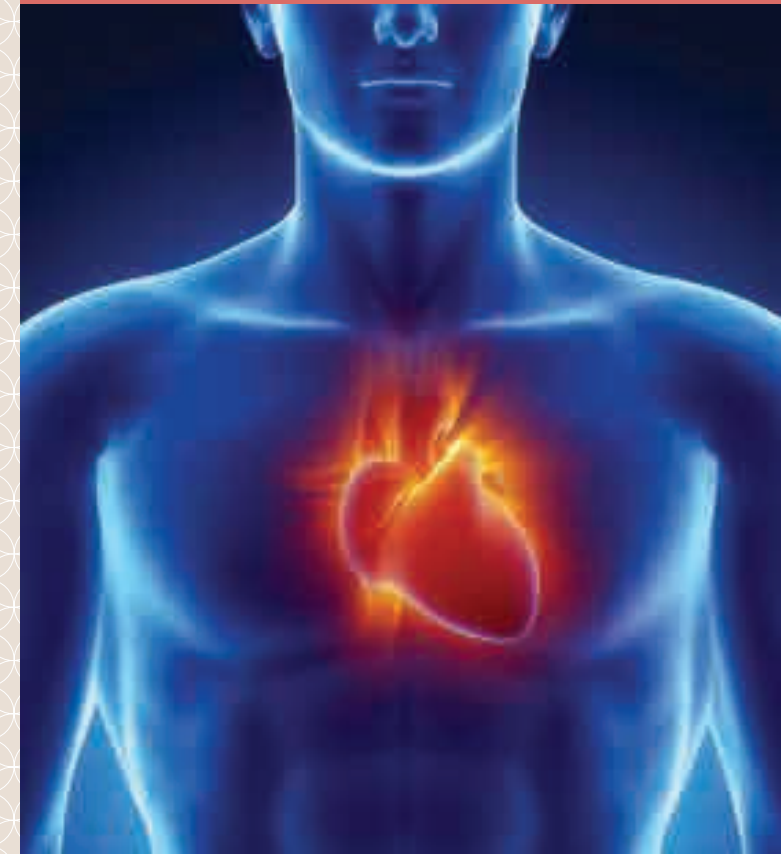


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Department of  
**CARDIOLOGY**

## Cardiac Electrophysiology Study (EPS)

(with/without Radiofrequency Ablation)





## What is a Cardiac Electrophysiology Study (EPS)?

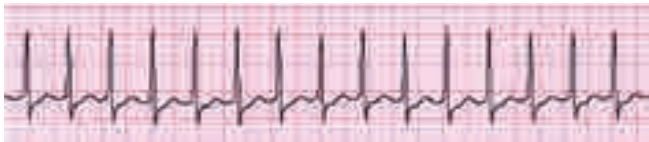
A cardiac EPS is a diagnostic study of the electrical activity of the heart that helps the cardiologist to identify:

- Disturbance to your heart rhythm
- The cause of this disturbance
- The best treatment method

## Why do I Need a Cardiac Electrophysiology Study?

Your doctor suspects or has determined that you have heart rhythm disturbance. When your heart beats abnormally fast or slow, you may experience one or more of the following symptoms:

- Dizziness or light-headedness
- Fainting spells
- Fatigue
- Palpitations (Heart beating faster and/or harder)
- Shortness of breath
- Chest pain



*Abnormal heart rhythm*



*X-ray guided catheter placement*

## What can I Expect for the Procedure?

### Before the Procedure

Your doctor will discuss the goals, benefits and risks of the procedure with you. You will be admitted to the hospital on the day of the test, and will need to be warded for about 2 days. For women of childbearing age, a urine pregnancy test may be carried out.

You will need to fast from midnight on the day before the test until after the procedure is completed.

The EPS is performed in the Invasive Cardiac Laboratory and may take about 1.5 to 2 hours.

If necessary, a plastic tube or cannula will be inserted into one of the veins on your hand to facilitate the injection of medications during the test. You will be given medication through the cannula on your hand to help you relax or sleep. For accurate test results, you will need to lie still throughout the study.

### During the Procedure

After an injection of local anaesthetic to your neck, groin or arm, several lead wires will be inserted into your blood vessels and placed into the heart under X-ray guidance. When the leads are placed at the desired locations in the heart, the specialist will record the electrical activities of your heart, as well as stimulate your heart with an electrical current to observe the response. You may experience feelings of your heart beating harder and faster during the test. If you experience any discomfort during the procedure, please inform the doctor.

During the test, the doctor will determine if any treatment is required. The most common form of treatment is known as radiofrequency ablation, which "burns" or ablates culprit tissues causing the abnormal heart rhythm. This is done by applying electric current through a catheter (or lead) to heat up and eliminate the culprit tissue.



### After the Procedure

When the examination is completed, the leads will be removed and 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.

This procedure is largely painless, except during the initial injection of the local anaesthetic.

After the test, you will need to lie in bed for 4 to 6 hours. Avoid big movement so that the wounds will heal rapidly, and prevent bleeding. If you feel pain or swelling in the area, you must inform the attending nurse. Painkillers will be prescribed if necessary. Usually, you will be able to go home the next day.

### Inform Your Doctor On:

1. Any drug allergies to X-ray contrast materials (commonly known as dye), heart rhythm medications and pain-relieving medications.
2. Your pregnancy. If you are pregnant, you should not undergo EPS due to X-ray radiation exposure.