

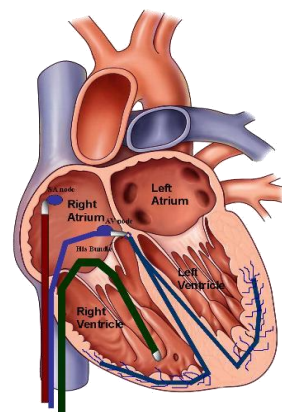


## Operation Information

### Electrophysiology Study (EPS)

#### Introduction

"Arrhythmia" means any change from the normal sequence of electrical impulses. The electrical impulses may happen too fast, too slow, or erratical – causing the heart to beat too rapidly, too slowly, or irregularly. A patient suffering from an arrhythmia may experience palpitation, chest discomfort, dizziness or vertigo. In severe conditions, it might cause loss of consciousness or a life-threatening situation. Electro-physiology study (EPS) is an invasive procedure which is conducted by a heart rhythm specialist. It allows the doctor to study the heart's electrical activity in detail and locate the sites where the abnormal heart rhythms originate from.



Source:  
<https://washingtonhosp.com/wp-content/uploads/2015/05/EPS.jpg>

#### Outcomes

The electrophysiology study allows the doctor to diagnose the precise causes of arrhythmia and decide the most appropriate treatment such as drug therapy, cardiac device implantation, catheter ablation or surgery based on the findings.

#### Procedures

1. This operation is performed under local anaesthesia in a cardiac catheterization laboratory. The doctor may give you sedation to calm you down.
2. Electrodes and pads are adhered to the chest and back to monitor the heart rate and rhythm. Blood oxygen and blood pressure are monitored through the devices on your fingertip and arm.
3. Small wounds are made over the groin, under the clavicle or around the neck for access to arteries or veins.
4. A small straw-sized tube called a sheath is inserted into the artery or vein.
5. Catheters are advanced through the sheath to the heart under X-ray guidance.
6. Small electric impulses are generated through the catheters to make the heart beat at different speeds. You may feel your heart beats stronger or faster.
7. Electrical signals produced by the heart are picked up by the special catheters and recorded. This is called cardiac mapping and allows the doctor to locate where arrhythmias are coming from.
8. The doctor removes the catheters and the sheath. The nurse puts pressure on the puncture site to stop any bleeding.
9. This operation may last from 30 minutes to over an hour depending on the nature and complexity of the arrhythmia.
10. Depending on the findings of the EPS, catheter ablation may also be performed at the same setting of EPS as indicated.

#### Possible Risks and Complications

##### Mild (4%)

1. Infection
2. Bleeding at the puncture site
3. Blockage of blood vessels by clot

#### 4. Arrhythmia

##### Severe (0.1%)

1. Damage to blood vessels or the heart, further open surgery may be needed
2. Death due to uncontrollable complications

\*\* The risks listed above are in general terms and the possibility of complications is not exhaustive. Please understand that even though all operations are carried out with utmost professionalism and care, this does not rule out the possibility of complications arising. In the event of peripheral organ damage or post-operative haemorrhage or leakage, further operations may be required.

#### **Pre-operative Preparations**

1. Good hygiene can prevent surgical wound infection. Therefore, we advise you to clean up yourself on the day of the operation.
2. The procedure and possible complications will be explained by the doctor and a consent form must be signed prior to the operation.
3. Please inform the doctor and nurse all your past medical history, previous surgical operations, current medication and any complication with drug or anaesthesia.
4. Please inform the doctor or nurse if you might have chances of getting pregnant.
5. You may be instructed to stop some or all of the anti-arrhythmic drugs before the operation.
6. Blood tests and electrocardiogram may be performed as necessary.
7. Shaving on the puncture site may be required.
8. No food or drink four to six hours before the operation, or situation dependent.
9. Pre-medication may be prescribed by the doctor prior to the operation.
10. Please change into a surgical gown after removing all belongings including undergarments, dentures, jewellery and contact lenses.
11. Please empty your bladder before the operation.

#### **Post-operative Instructions**

1. Vital signs and the wound are monitored closely by the nursing staff.
2. Please inform the nurse immediately if pain or bleeding from the puncture site, numbness or decreased sensation of the affected limb, difficulty breathing or any other discomfort.
3. Bed rest for at least 4 hours is required. Do not move or bend the affected limb. Please apply pressure on the wound with your hand, whenever you cough or sneeze.
4. A normal diet may be resumed as instructed after recovery from sedation.
5. Generally, you can be discharged 1 day after the operation.

#### **Advice on Discharge**

1. Please comply with medication as prescribed by your doctor.
2. The wound is covered with a waterproof dressing. Dressing can be changed on the day after the operation. Always keep the wound clean and dry.
3. Showers are allowed with waterproof dressing if no abnormality is found on the wound. Be reminded to change a new waterproof dressing as instructed afterward.
4. Bruising around the wound site is common and usually subsides within 2 to 3 weeks progressively.
5. Please avoid vigorous activities (household or exercise) in the first 3 days after the operation.
6. Immediately consult your doctor or return to the hospital for professional attention in the event of bleeding, swelling, pus discharge or increased pain from the wound, chest pain, breathing difficulty, shivering, high fever over 38°C or 100.4°F, or any other unusual symptoms.
7. Any follow-up consultations should be attended as scheduled.

Should there be any enquiries or concerns, please consult the attending doctor.

Under the professional care of the doctor, you will gradually recover. We wish you all the best during your treatment and recovery.

If you have any questions after reading the entire leaflet, please write them down in the spaces provided in order for the doctor to further follow-up.

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Compiled by Union Hospital Operating Theatre (OT) Governance Committee

The above information is for reference only, please enquire your physician for details  
Our Hospital reserves the RIGHT to amend any information in this leaflet without prior notification

