



Procedure Information

Electrophysiology Study (EPS)

Introduction

"Arrhythmia" means any change from the normal sequence of electrical impulses. The electrical impulses may happen too fast, too slowly, or erratically – causing the heart to beat too fast, too slowly, or irregularly. A patient suffering from arrhythmia may experience palpitation, chest discomfort, dizziness or vertigo. In severe condition, it might cause loss of consciousness or 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 details and locate sites that cause abnormal heart rhythms.

Outcomes

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

Procedures

1. This procedure is performed under local anaesthesia in a cardiac catheterization center. The doctor may give you sedation to calm you down.
2. Electrodes are adhered to the chest 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 is 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 procedure 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 puncture site
3. Blockage of blood vessel 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 procedures are carried out with utmost professionalism and care, this does not rule out the possibility of complications from arising. In the event of peripheral organ damage or post-operative haemorrhage or leakage, further operations may be required.

Pre-procedure Preparations

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

Post-procedure 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 decrease sensation of the affected limb, difficult 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 procedure.

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 removed on the day after the operation. Always keep the wound clean and dry.
3. Showers are allowed after removal of the dressing with no abnormality found on the wound. Be reminded to pat the puncture site and surrounding area dry afterwards.
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 procedure.
6. Immediately consult your doctor or return to the hospital for professional attention in the event of bleeding, swelling, pus discharge or increase pain from the wound, chest pain, breathing difficulty, shivering, high fever over 38°C or 100°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.

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

