Electrophysiology studies and ablation

General information

What are electrophysiology studies?

Electrophysiology studies (EPS) test the electrical activity of your heart to determine the exact source of an arrhythmia (abnormal heart beat). The results help your cardiologist determine if any treatment is needed such as medication, a pacemaker, an implantable cardioverter defibrillator or **ablation**.

In a healthy heart, electrical signals travel through the heart in a regular pattern. Heart attacks, ageing and high blood pressure can cause scarring, which in turn can result in abnormal electrical signals, circuitry and arrhythmias.

If an EPS finds the source of your abnormal heartbeat, it may be treated with **ablation** during the same procedure. **Ablation** destroys the tissue that is causing an abnormal electrical signal, and restores your heart's regular rhythm. This is often performed on patients who have had little success with, or are unable to tolerate medications to treat arrhythmias.

What does it involve?

A hospital procedure

EPS are performed in hospital and may involve an overnight stay depending on your situation and treatment required. During the procedure, a flexible tube called a catheter is inserted into a vein (rarely an artery) at the groin. It is gently threaded through the vessel to your heart. Dye (called contrast) is injected via the catheter into your heart's vessels, making the blood flow easy to see on the x-ray images taken. Your cardiologist then sends electrical signals to your heart via the catheter and records the electrical activity. The results create a 'cardiac map' and can pinpoint the source of abnormal electrical activity.

Ablation

If a problem area is identified during the EPS, your cardiologist may perform ablation at the same time, via the catheter. During ablation, a mild and painless radiofrequency energy is directed at the problematic tissue. Ablation delivers heat to the tissue, thereby destroying the exact site causing the arrhythmia, while keeping the rest of the heart intact. Once the procedure is complete, all catheters are removed and the insertion sites at the groin are closed and dressed.

What you can expect

As your doctor and medical team need to communicate with you during the procedure, it is generally performed while you are sedated. To ensure that you are comfortable and relaxed, an intravenous drip will be attached to your arm to administer sedatives, pain relief and other medications. This will help you to feel very sleepy and relaxed but able to follow instructions. You will be lying down on your back and at different times, the x-ray machine will move above and around your chest area to take images. Your heartbeat and blood pressure will be monitored and further medication may be administered via the intravenous drip if needed.

After the procedure, you will be moved to a recovery ward for a few hours for monitoring and further testing. Most patients can return home the day after the procedure. Your cardiologist will advise if any driving or other restrictions apply.

What can I expect after the procedure?

Once you have returned home, you may feel tired for a few days but can generally return to normal activities. You may feel mild discomfort at the site of insertion which can usually be relived with simple analgesia such as paracetamol. Your cardiologist will advise which pain relief medication you may use.

You can shower but try to keep the wound dry and clean for one week. If you experience any signs of infection (such as fever, swelling, redness, oozing from the wound), or cardiac disturbances (such as breathlessness, chest pain or palpitations) please contact our clinic.

About one week after the procedure, your cardiologist will check your heart and wound at a follow-up appointment at our clinic. An echocardiogram (ultrasound of your heart) will generally be done at this time.

Do I need to prepare?

- You may need to stop certain medications such as blood thinners prior to the procedure. Your cardiologist will advise if this applies to you.
- You will need to fast for a few hours prior to your procedure. A hospital representative will call you the day before and advise from what time you need to stop eating/drinking.
- If you are expected to need certain medications during the procedure, driving restrictions may apply. Your cardiologist will let you know if this is the case.

Are there any risks associated with these procedures?

Your cardiologist will discuss the potential risks, which include:

- Stroke or heart attack
- Damage to your heart
- Damage to the catheterised artery or vein
- Allergic reactions to medications
- Kidney damage
- Bruising, bleeding and infection

What will I need to pay?

As EPS and ablation are hospital procedures, your out-of-pocket costs will depend on whether you are admitted as a private or public patient. If you have private health insurance and have the procedure done at a private hospital, your health fund will generally cover a portion of the cost. Our patient services team can provide you with an estimate.

If you are admitted as a public patient to a public hospital, your costs will be covered by Medicare, however you may need to wait longer to have the procedure performed.

Any questions or concerns?

Please call us: **Chatswood clinic: (02) 9411 3930** **Dee Why clinic: (02) 9133 7050**