



# Victorian Heart Centre

## BIVENTRICULAR PACEMAKER

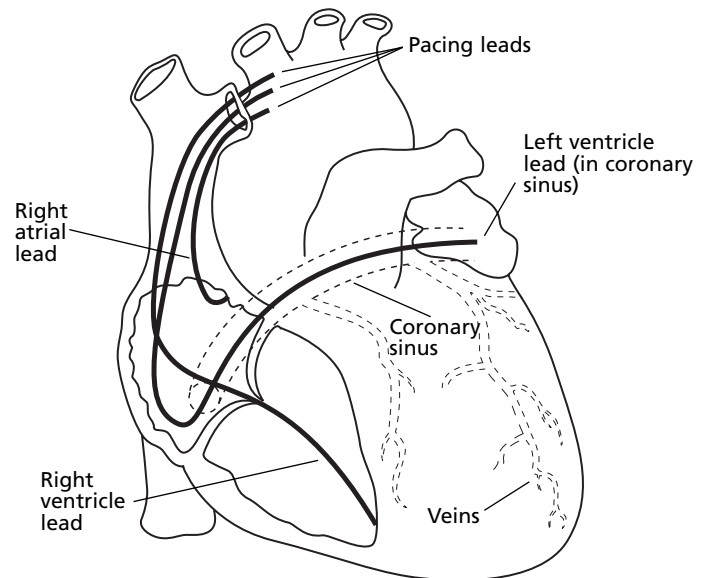
A guide for patients



**B**iventricular pacing is a promising new treatment for some patients with severe congestive heart failure (CHF). The biventricular pacemaker is similar to the standard heart pacemaker that has been used for more than 40 years to treat abnormal heart rhythms. The function and purpose of the biventricular pacemaker, however, is slightly different.

As CHF worsens, enlargement of the heart interferes with the heart's normal electrical activity. The two main pumping chambers of the heart, the left and right ventricles, no longer beat in a coordinated rhythm. Consequently, the heart does not pump blood efficiently.

Biventricular pacing stimulates the left and right ventricles and the right atrium so they beat in a coordinated rhythm and pump blood more efficiently. Many patients treated with biventricular pacing have had a significant improvement in heart function. Consequently, they have felt better and have had fewer admissions to hospital.



The electrical leads are placed in the right atrium and ventricle, and near the left ventricle in a large vein called the coronary sinus.

### The Implantation Procedure

**T**he procedure is performed under local anaesthetic in the Cardiac Catheter Lab by a cardiologist and a specialised team of nurses and technicians. You may be given a sedative through an intravenous drip to help you relax.

A small cut is made on the left side of the chest, near the shoulder. Three wires are passed into a vein and, under X-ray imaging, guided to the heart. As shown in the illustration, two wires are placed in the right atrium and right ventricle. The third wire is placed close to the left ventricle, in a large heart vein called the coronary sinus. The wires are tested to make sure they are in the correct place and then connected to the pacing stimulator.

The pacing stimulator is placed in the fatty tissue just under the skin. The skin incision is sutured with dissolvable stitches. You will not be able to see the stitches, and they will not need to be removed. The lump can be felt, and in thin patients it may be visible.

### Recovery

**A**fter the procedure, you return to the ward. The heart is monitored and an antibiotic is given through an intravenous drip. Paracetamol is usually enough to relieve any pain and discomfort. An X-ray examination checks the pacemaker's position.

Patients usually go home one or two days after the implantation procedure. Your cardiologist will advise you if your medications need to be changed in any way. You can resume normal activities as soon as you feel comfortable.

### Possible Complications

**A**s with all procedures, implanting a biventricular pacemaker does have risks, despite the highest standards of practice. Most people do not have complications. If a complication occurs, it is usually temporary. However, some complications

may require another operation or the removal of the pacemaker.

#### Possible complications include:

- occasionally, implantation of the left-ventricle lead cannot be completed because of difficulty getting the lead into the correct position
- bleeding or bruising at the pacemaker site, which is more common if the patient is taking a blood-thinner medication
- perforation of a vein or the heart itself; surgical intervention to repair the perforation is necessary
- rarely, infection of the pacemaker site; this requires treatment with an antibiotic
- the pacemaker wires may move from their original position. This occurs in about one patient in every 100. The problem is often detected by the ECG monitor in the first hours after the procedure. Another procedure to reposition the wires may be necessary. Sometimes, leads may need to be repositioned weeks after the original procedure.
- uncommonly, a lung may partly collapse during the insertion of the pacemaker wires. A small tube may be inserted into the chest to re-inflate the lung.
- the treatment is not effective in some patients.

#### TALK TO YOUR DOCTOR OR NURSE

**T**his leaflet is intended to provide you with information and is not a substitute for professional advice. It does not contain all of the known facts about biventricular pacing. There may be other side effects that are not listed in this leaflet.

If you are not certain about the benefits, risks and limitations of treatment, be sure to ask your doctor or nurse.

It is important that you have enough information about benefits and risks so you can make an informed decision about having treatment.