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## 前言 Introduction

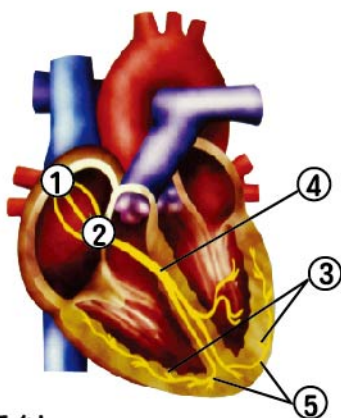
心臟的跳動是由心臟內一個自然節律點（竇房結）發出訊號刺激心臟肌肉收縮與放鬆的動作，引起規律的心跳節奏，正常心跳範圍每分鐘60-100次。活動時心跳變快，休息或睡眠時心跳會變慢。當心臟的節律點傳導出現問題，引起心律不整時，就需要心臟節律器來幫忙。常見的心律不整症狀有引起虛弱、心悸、頭暈、胸口顫動、胸悶、運動能力差、極端疲倦、昏倒等。

The heartbeat is a natural rhythm caused by an impulse generated by a pacemaker (sinoatrial node) in the heart which stimulates the heart muscle to steadily contract and relax. The normal heartbeat ranges from 60 to 100 beats per minute. It is higher when exercising and lower when resting or sleeping. An artificial pacemaker is needed when an arrhythmia, an abnormal rhythm, develops due to

problems with the heart's pacemaker. Common symptoms of arrhythmia include body weakness, palpitations, chest tightness, decreasing physical activities, feeling extremely tired, lightheadedness, dizziness and fainting.

### ■ 心臟的傳導路徑

The heart conducts path.



- ① 竇房結 SA node
- ② 房室結 AV node
- ③ 蒲金氏纖維 Purkinje's fiber
- ④ 希氏束 Bundle of His
- ⑤ 傳導路徑 Conducts path

### 什麼是心臟節律器

What is an artificial pacemaker?

外表像懷錶一樣大小的心臟節律器俗稱「心臟電池」，有暫時型及永久型

兩種。此儀器內有調整心律所需的電池、電腦晶片及連接細小的絕緣導線，來幫助刺激心臟跳動的一種精細儀器。

The size of an artificial pacemaker is similar to that of a pocket watch. An artificial pacemaker is also referred to as a “battery for the heart”. There are two types, temporary and permanent. This sophisticated device is composed of a battery, microelectronic chips, and electric leads. It generates small stimulating electrical pulses to the heart muscle to maintain a regular heartbeat.



心臟節律器導線

Artificial pacemaker- conductor

## 哪些情況需要裝置心臟節律器？

What kinds of  
conditions require  
an artificial pacemaker?

1. 病竇症候群或心房室阻塞導致心博過慢。

Bradycardia, an abnormally slow heartbeat, caused by sick sinus syndrome or atrioventricular block.

2. 有中度至重度心臟衰竭病人，無法單獨用藥物來改善生活。

Moderate to severe heart failure where quality of life can not be improved by medicine alone.

3. 因病情需要或其他原因造成心律不整導致心臟功能喪失或不穩定等。

Certain disease conditions, or heart dysfunction or instability due to other reasons besides arrhythmia.



## 如何裝置心臟節律器

### How are artificial pacemakers implanted

1. 裝置前您的主治醫生會向您與您的家屬解釋裝置過程及重要性。

Before implantation, your doctor will explain the importance and the process of implantation to you and your family.

2. 安排住院做手術前的準備及手術後的觀察。

You will need to be arranged for hospital admission and preoperative preparation as well as postoperative follow-up observation.

3. 此項手術在心導管室內進行，採局部麻醉，時間大約2小時。

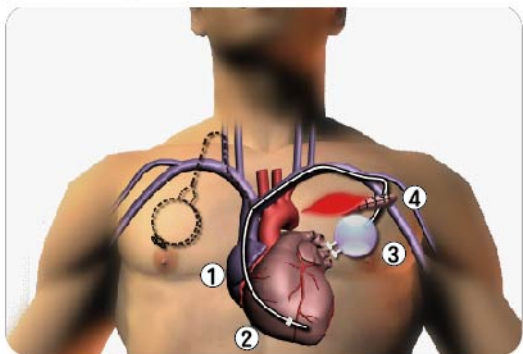
The implantation is performed in the cardiac catheterization room. Local anesthesia will be administered. The duration of the procedure is approximately two hours.

4. 手術中醫生會在您胸部的左邊或右邊做一個4-5公分的傷口，並植入



心臟節律器後，將電極導線放置於心臟的右心房或右心室內。測試及確定節律器功能後，縫合傷口，返回病房觀察。

The doctor will make an insertion hole about 4 to 5 cm in size on your left or right chest to implant the artificial pacemaker and install the electrical impulse leads on the right atrium or the right ventricle. The wound will be sutured after the pacemaker function has been tested and it has been confirmed that the implanted pacemaker is working properly.



- ①右心房 The right atrium
- ②右心室 The right ventricle
- ③心臟節律器 Artificial pacemaker
- ④縫合的傷口 Closed incision

## 住院期間要注意哪些事

The following items need special attent during hospitalizaion

1. 裝置48小時後，醫生會觀察傷口的情形並換藥，之後需每天換藥一次，在洗澡時請勿沾濕傷口。

Forty-eight hours after implantation the doctor will check the wound and replace the wound dressing. After that, the dressing will have to be changed once a day. Please note that when showering or bathing you should keep the wound from getting wet.

2. 傷口縫線約2星期後拆線。

The sutures will be removed approximately two weeks after surgery.

3. 使用三角巾固定手臂，剛裝置二天內勿抬高患側手臂，以防植入導線移位。

A triangular bandage will be used to immobilize your arm. Do not raise your arm above your head during the first two days to avoid displacement of the leads.



4. 二天後可以做一些日常活動，以預防冰凍肩的發生，切記手臂勿高於頭部。

Simple daily activities may be performed two days after implantation to prevent frozen shoulder. Remember to make sure that the arm is not raised above the head.

5. 復原期間選擇寬鬆衣服穿著，勿穿套頭衣服以避免磨擦傷口。

During the recovery period it is advisable to wear loose clothing instead of tight clothing to avoid having your clothing rub against the wound.

6. 出院前護理人員會教導您傷口自我照顧，若發現傷口有紅、腫、熱、痛及分泌物的情形，需立即回診。

Upon discharge from the hospital the nursing staff will teach you self-care tips. However, please revisit the hospital immediately if any of the following conditions appear around the wound: rash,

swelling, hot sensation, pain, or secretions.

### 日常生活注意事項

The following items need special attention during daily activities

1. 避免過度觸摸心臟節律器，以免影響節律器功能。

Avoid touching the artificial pacemaker constantly, this could affect its function.

2. 一個月內避免裝置側的手臂做游泳、打籃球、提重物等激烈動作。

Do not use your implanted side for swimming, playing basketball, or lifting heavy items or other extreme activities within one month after implantation.



3. 請用裝置心臟節律器的對側耳朵接聽行動電話，並保持30公分的距離以防互相干擾。

Please use the ear opposite to the side of the implantation to answer your mobile phone, and keep the mobile at least 30 cm away from the pacemaker.

4. 一般家庭電器或電動工具不會干擾心臟節律器的操作，包括電視、收音機等，假如感覺遭受干擾時，只要離開或關掉電氣設備即可。

General household electrical tools or electrical appliances such as TVs, radios, etc will not interfere with the pacemaker. However, if you feel there is some interference, just move away or turn off the appliances.

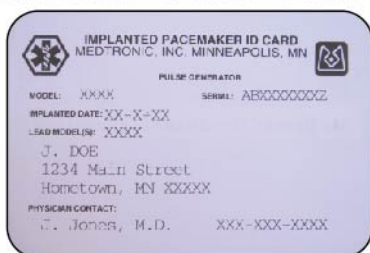
5. 做核磁共振掃描(MRI)、體外去顫術、體外碎石術、電燒、牙醫的電鑽等醫療處置前先告知醫生，以防儀器受干擾與破壞。

Advise the doctors or operators in advance if you have to undergo the following medical examinations or treatments: MRI, external

defibrillation, extracorporeal shock wave lithotripsy, electrocautery, electrodriller, etc, to avoid interfering with or damaging the implanted pacemaker .

6. 手術3個月後，您會收到一張「心臟節律器的識別卡」請隨身攜帶，在發生意外或坐飛機時，可獲得適當的協助。

Three months after implantation you will receive an ID card for your artificial pacemaker. Please carry it with you in order to get the necessary help if any unexpected events occur.



■ 節律器的識別卡Pacemakerid ID card

7. 植入心臟節律器後，請依約回院複診追蹤。

After implantation, please attend the routine follow-up visits to your doctor as scheduled.

## 如何檢查你的心臟節律器

### How to check your pacemaker

#### 常見自我脈搏監測的方法

Common methods for self-monitoring your artery pulsation :

##### ■ 方法一 Method 1.

將兩手指於對側手近拇指的手腕處，勿過份用力，感覺脈搏之跳動即可，利用有秒針的鐘或錶計數整整一分鐘（如圖一）。

Put two fingers on the wrist close to the thumb of the opposite hand without pressing too hard, and feel the impulse of the beat and count the beats for one minute according to a watch (Fig. 1).



**(圖一) 橈動脈測量**

**Fig 1. Measuring pulsation from the radial artery**

**■ 方法二 Method 2.**

用兩手指摸測頸子近下巴處，這裡的脈搏通常較強而易觸摸，同樣須計數一分鐘。每天固定時間測量脈搏，測量前應休息5分鐘，詳細記錄測量結果，如發現脈搏次數高於或低於正常範圍，休息10分鐘後再測量一次(如圖二)。



The pulse of carotid arteries is usually stronger and easier to find.

Therefore you can put two fingers on the side of your neck, close your jaw, and then count the beats for one minute.

Measure and record your pulse at the same time each day. Take at least a 5-minute break before starting the measurement. If the pulse is higher or lower than the normal range recorded for previous days, take a 10-minute break before measuring again (Fig. 2).



圖二 頸動脈的測量

Fig. 2. Measuring pulsation from the carotid arteries

如有下列情況，  
請儘速返院就診治療

If any of the following  
conditions occur, please  
visit the hospital for  
help as soon as possible

1. 感到頭暈、倦怠、心悸、胸痛、胸部不適、下肢水腫、連續或次數頻繁打嗝、及胸、腹、頸肌肉抽動等症狀。

When you have lightheadedness, dizziness, tiredness, palpitations, chest pain, discomfort in the chest, edema of the lower limbs, persistent or very frequent burping, or muscle twitching on the chest, abdomen, or neck.

2. 若發現放置節律器的部位有感染現象或突出外露時。

When there is a sign that the implanted pacemaker is infected or seems to be protruding or exposed.

敬祝您  
身體健康 平安吉祥

Wish you  
Healthy & Peaceful

## 佛教慈濟醫療財團法人

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# 裝置 心臟節律器 病人的照顧 Information for patients about implanted artificial pacemakers

中英文