

Living with an ICD

With thanks to Wirral Heart Support Group for their resources and input

LHCH MAIN
ENTRANCE



- Talk 1: Understanding ICDs
- Talk 2: Getting back to normal
- Talk 3: Adjusting to life with an ICD



What is an ICD?

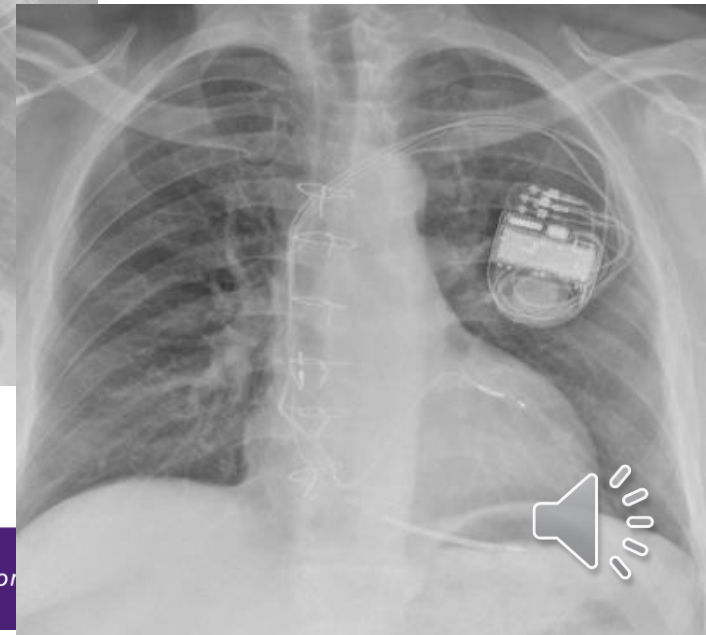
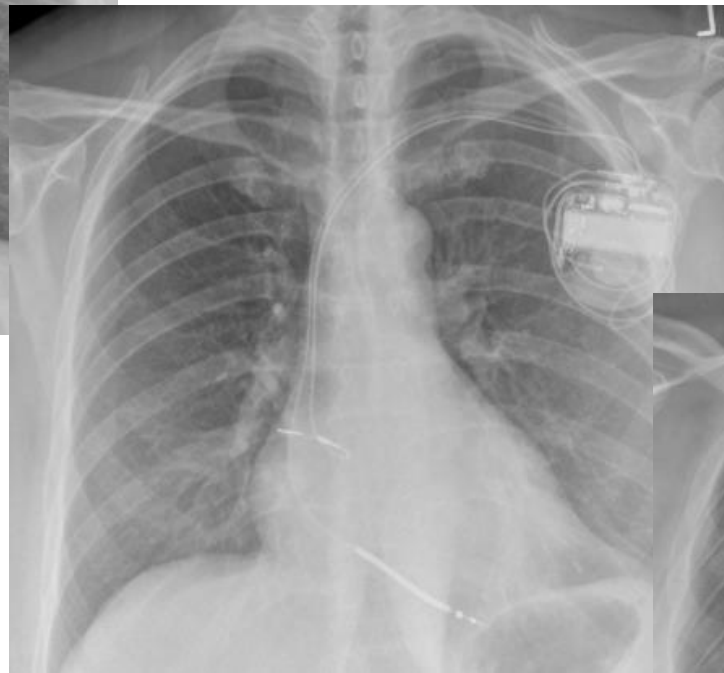
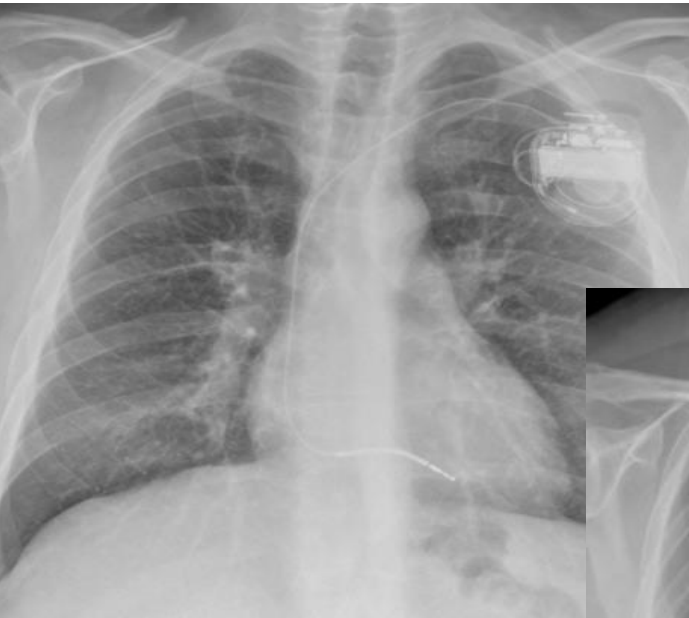
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D efibrillator



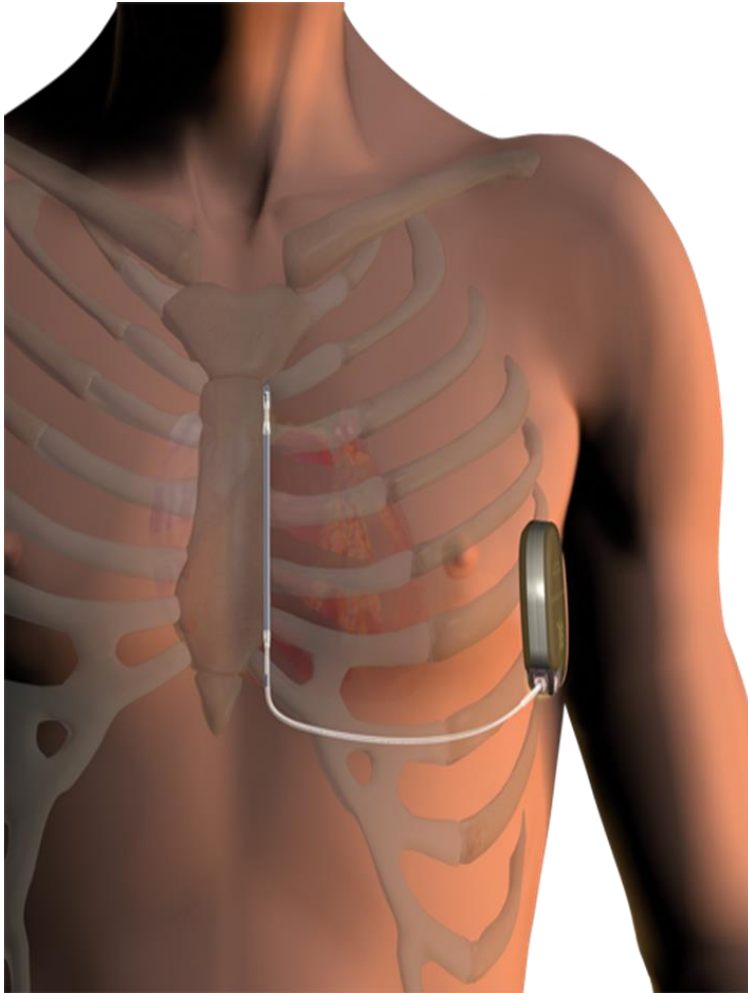
Types of ICDs- transvenous



Will people know I have an ICD?

- You will have a small scar at the site of the ICD implant
- The ICD box may protrude slightly
- Don't fiddle with your ICD!!!!

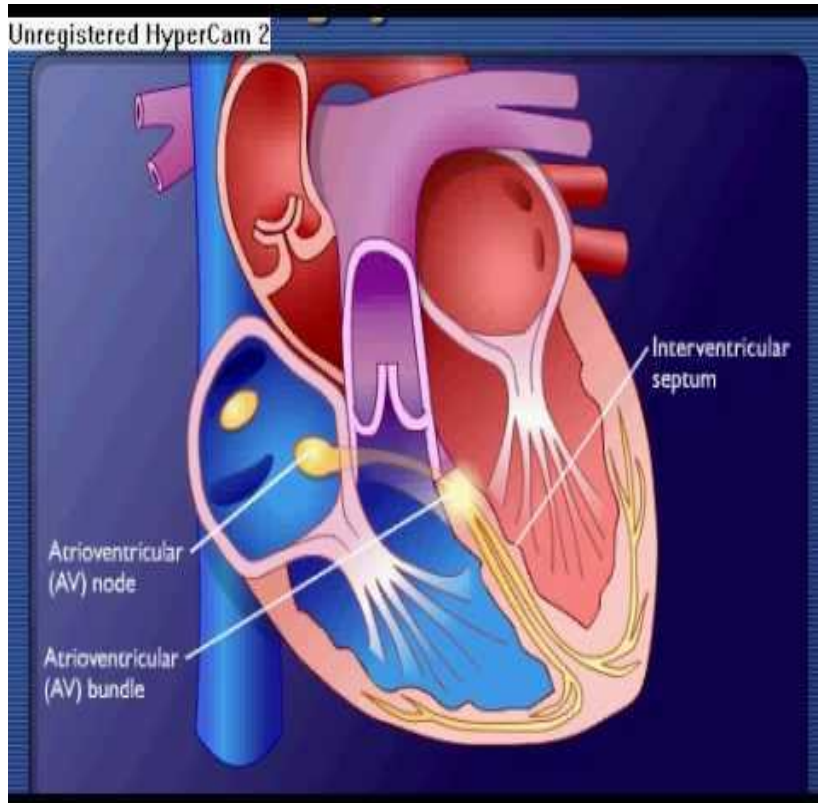




Types of ICD- subcutaneous



How does your heart work?



The heart has its own
pacemaker!

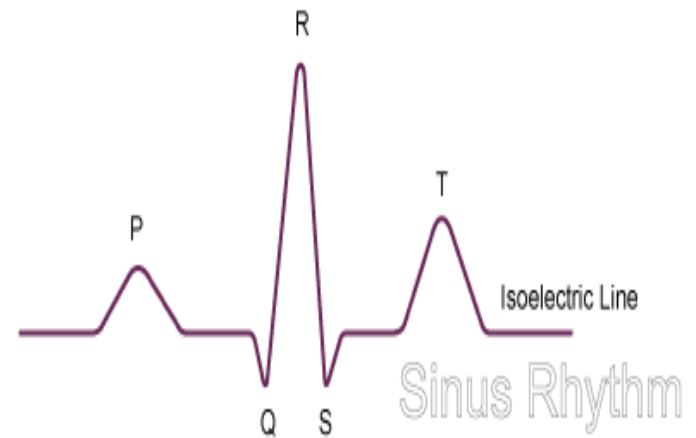
It sends electrical
signals through the
heart making it contract
and pump blood around
the body



Normal Sinus Rhythm

Electrical signals are sent from the heart's pacemaker along the normal conduction pathway

This rhythm is regular and is usually around 60-100 bpm





What is an Arrhythmia?

- A series of **abnormal**, often **irregular heart beats**
 - caused by abnormalities in the electrical activity of the heart.
- This could make you feel **unwell, dizzy, faint** and can be **life threatening**
- If continued it may **prevent** the heart from pumping **enough blood** around the body and **lead to cardiac arrest**.

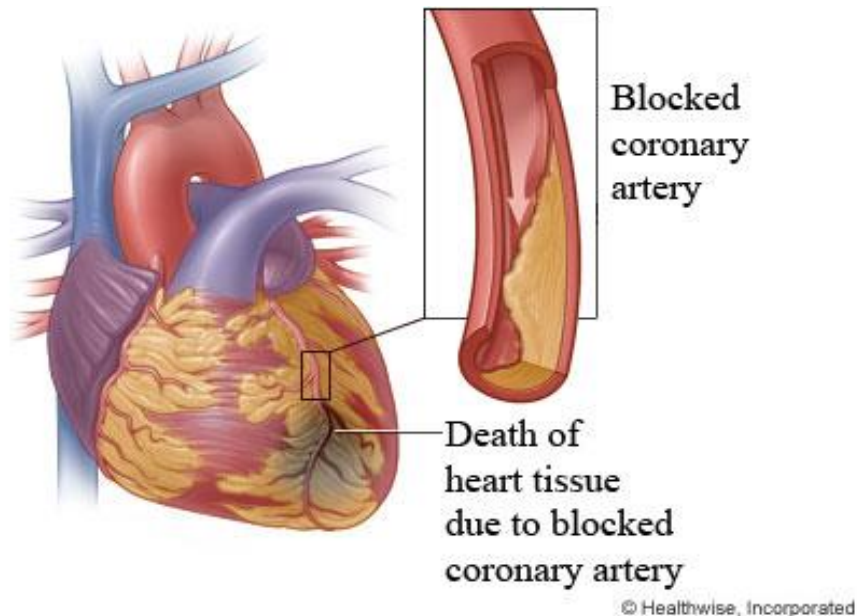
Is a heart attack the same as a cardiac arrest?





Heart Attack

- A heart attack happens when there is a sudden loss of blood flow to a part of your heart muscle. Most heart attacks are caused by [coronary heart disease](#).





Heart Attack

- **Symptoms of a heart attack**
- Heart attack symptoms vary from one person to another. The most common signs of a heart attack are:
- Pain or discomfort in your chest that suddenly occurs and doesn't go away.
- The pain may spread to your left or right arm or may spread to your neck, jaw, back or stomach. For some people the pain or tightness is severe, while other people just feel uncomfortable.
- You may also feel sick, sweaty, light-headed or short of breath





Cardiac Arrest

- A cardiac arrest is when your heart suddenly stops pumping blood round your body, commonly because of a problem with electrical signals in your heart.
- When your heart stops pumping blood, your brain is starved of oxygen. This causes you to fall unconscious and stop breathing.
- There may be no symptoms before a cardiac arrest and, without immediate treatment, it will be fatal. If someone is in cardiac arrest:
 - they won't be conscious, they won't be responsive
 - they won't be breathing, or breathing normally



Why does one need an ICD?

- Risk of having VT or VF
 - Previous MI
 - Heart Failure
 - Genetics
 - Family History
 - Cardiomyopathy
 - Uncontrolled arrhythmias
- Primary prevention



@ risk of Sudden Cardiac Death

Elective implant following discussion

Cannot drive for 1 month



Why did you get your ICD?

- Previous episode of VT or VF
- Secondary prevention

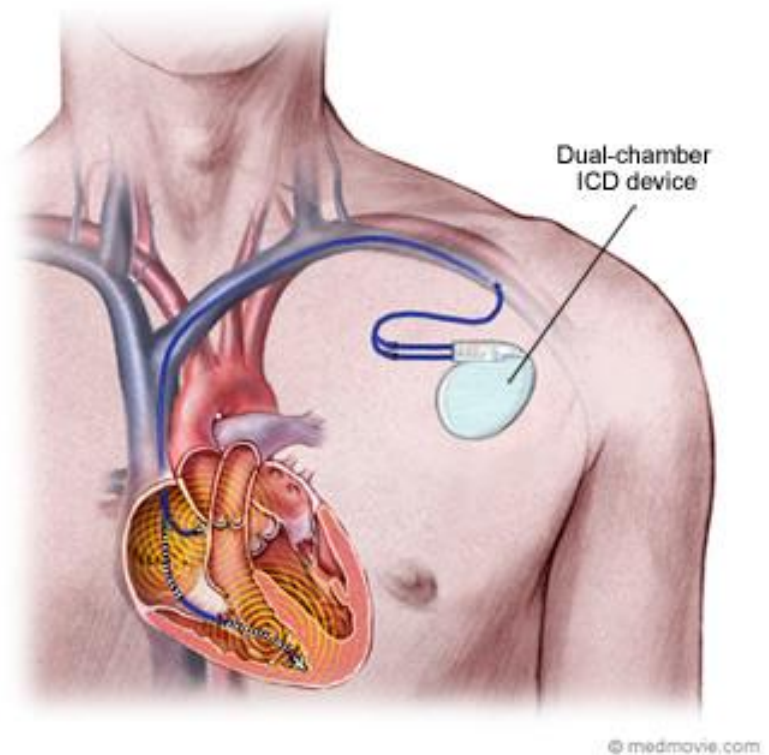
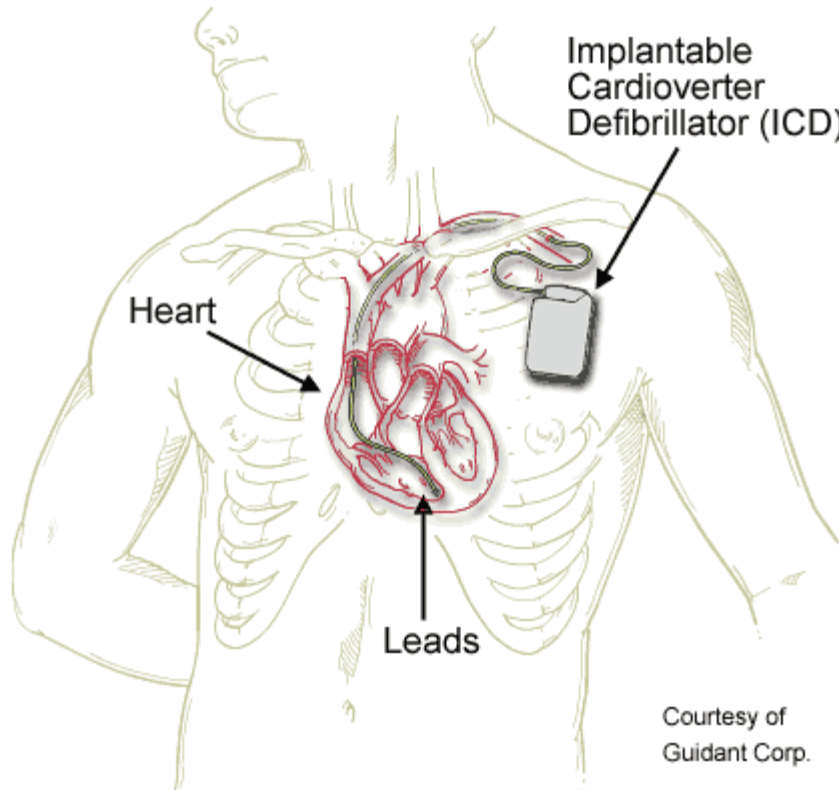
following a cardiac arrest/ syncope

usually an in hospital transfer and urgent implant

cannot drive for 6 months



How does an ICD work?



How does it work....?

ICD: constantly monitors the rhythm of the heart

If a life threatening rhythm is detected, treatment is delivered in 2 ways:

1. **ATP** - Over rides the fast rhythm, brings it back down to normal
2. **Defibrillation** – Large electric shock generated to restore normal rhythm



Types of Arrhythmias

Ventricular Tachycardia (VT)

- Very fast - >180 bpm
- Regular
- Heart cannot cope if prolonged

You may not experience symptoms with VT

Treatment:

Medication

Ablation

Cardioversion

Defibrillation - Shock therapy (ICD)



Types of Arrhythmias

Ventricular Fibrillation (VF)

- Very fast and chaotic
- Irregular
- Heart cannot function

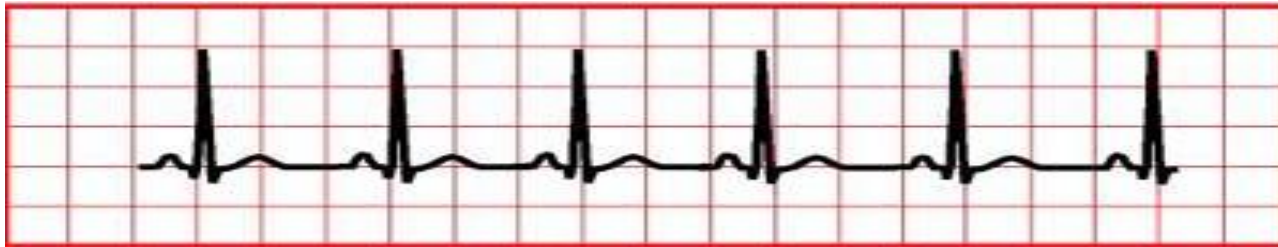


Treatment

Shock therapy (ICD)



Examples of Arrhythmias



Why does the ICD shock?

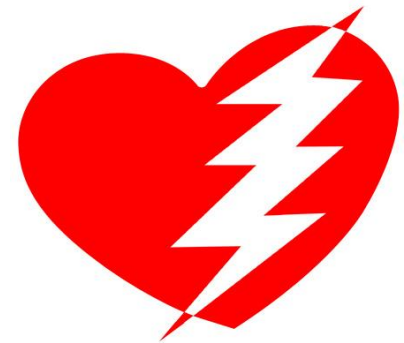
- Your ICD is continually monitoring your heart rhythm
- It is programmed to deliver a shock if it detects a life threatening rhythm
- You may feel unwell before a shock is given



How will it feel to get a shock?

Has anyone had a shock? ...

- Unexpected
- You may blackout
- Hard thump in the chest
- No symptoms at all
- Relief
- Startling and discomfoting
- Adrenaline rush



How does the ICD know whether to shock ?

- Primarily on heart rate – however your ICD does have a “ brain “ and has algorithms that help it differentiate between normal and abnormal fast heart rates .



Can I set it off?

- It is safe to get excited, exercise, have sex, dig in the garden, have an argument, DIY
- Your ICD is programmed to recognise these activities.



Being prepared- shock plan

- Having a shock plan helps reduce uncertainty and anxiety
- It can help your loved ones know how to handle a shock situation
- It is important to work out your own actions and also those who maybe involved



Follow-up care- Shock Plan

What to do when you have had a shock

- 1 shock – and you feel OK- call ICD clinic (or LHCH switchboard to speak to SPR for out of hours) for advice and we will see you same or next working day.
- 1 shock -and you are unwell –A&E
- 2 or more shocks –A&E
- If you can -send a remote and contact clinic (or SPR on call)

Follow-up care post shock

- You may need to attend ICD clinic/Cardiologist
- You may have settings/medication changes
- You cannot drive immediately
- You will be advised when you can return to driving
- Speak to your Cardiologist for advice about resuming exercise



Medication

Beta Blockers - Bisoprolol
- Cardvedilol

Work by helping your heart beat more efficiently

Side Effects

- can make you feel tired
- cold fingers and toes
- wheezy chest
- erectile dysfunction



Follow-up Care

- 6 week check:
 - Wound Check (infection)
 - Device check (settings)
- 6 monthly follow ups
 - Remote monitoring
 - Clinic
 - Change of battery – usually lasts 5-10 years
- If the device is alarming
- If device delivers a shock
 - Remote download
 - Immediate clinical appointment



Remote Monitoring

We use 2 main manufacturers- Boston Scientific and Medtronic .
Monitors should be plugged in at all times – they have 2 functions;

- they replace 1 clinic visit . You will attend clinic only once per year.
- they wirelessly check the ICD every evening . If the check is normal NO data is sent , but if any data is abnormal or a shock has been delivered – all data is sent and an e mail is also sent to clinic.



Home monitoring



Talk 1: Understanding ICDs



ICD deactivation

“End of Life” discussion with patient, family and health care professionals.

Can be done with programmer
Pacing function remains active!



Summary

Your ICD is there to protect you and help you lead a happy, normal life



Please copy the link and paste
into web browser to watch a
tutorial on how to do a remote
download

<https://www.medtronic.com/us-en/patients/treatments-therapies/remote-monitoring/available-monitors/mycarelink-patient.html>





Receiving a shock

The following video shows Anthony Van Loo, a young Belgian footballer, receiving a shock from his ICD whilst playing football.....

https://www.youtube.com/watch?v=DU_i0ZzIV5U

(Please click on the click to watch the video, you may need to copy the link into a browser)





Receiving a shock

The following video shows a “real life person” getting a shock and the lead up to it, and the events that took place afterwards

<https://youtu.be/xyl8JrAlNPo>

(Please click on the link to watch the video, you may need to copy and paste into a browser)





Shock Plan

How to deal with a defibrillator shock

When you receive a shock

1. Sit down. Take time to allow your heart to 'calm down'.
2. Close your eyes and focus on your breathing. Relax
3. Check to see if you notice any of the following:
 - *Do you have chest pain or chest pressure?*
 - *Do you feel light-headed or faint?*
 - *Do you feel dizzy or confused?*
 - *Does your heart feel like it is beating quickly or racing?*
 - *Do you feel short of breath?*

If you answer “YES” to any of the above – Call 999

- **Do not** drive yourself to hospital.
- **Do not** drive at all until your Cardiologist or electrophysiologist says you can return to driving





Shock Plan

How to deal with a defibrillator shock

If you answer 'NO' to all the above:

- Write down the time you received the shock, what you were doing and how you felt before and after the shock
- Call your ICD Clinic 0151 600 1714 /1701. It is okay to leave a message.
- **Do not** drive until your Cardiologist or electrophysiologist says you can return to driving.

You receive 2 or MORE shocks within 24 hours

Or

You pass out

Call 999

Do not drive yourself to hospital.

Do not drive at all until your Cardiologist or electrophysiologist says you can return to driving

