

Care of your Incision

- n Keep your incision covered with small sterile dressing for a few days to protect it from dust, sweat etc.
- n Observe your incision daily. Call the device clinic or your doctor if you notice any redness, swelling or drainage.
- n Wear loose clothing.
- n You may take a shower 5 days after your ICD implant procedure. Do not rub the area with a towel, instead pat it dry.

Activity

- n You may return to your normal activities two weeks after your ICD implant procedure. Talk to your doctor about your return to work.
- n Avoid swimming and hot tubs / whirlpools, until your incision is completely healed (usually 6-8 weeks).
- n Avoid lifting heavy objects for 1 week after your ICD implant procedure.

Can I use cell phone or microwave oven if I have an ICD?

You may use microwave oven, TV and remote control for TV, computer. You can use a cell phone too if you follow these steps.

- n Cellular phones should be used on the side opposite to your implant.
- n When your phone is on, try to keep it at least 6 inches away from your implant.
- n Don't carry your phone in your chest pocket.

Follow-up

Follow-up visits are important to ensure your ICD continues to work properly, to check the ICD's battery status and any episodes or therapies delivered by the device, to monitor any medication you are using and to check the possible interaction with ICD.

Regular follow-up visit with the consulting doctor is essential. If everything is stable, your doctor might only need to see you once or twice in a year.



CK Birla Hospitals – Operating Philosophy

Clinical Excellence

- 1 Delivery of best patient care; from prevention to treatment of the most serious and complex human diseases.
- 1 Use of international guidelines, protocols and care pathways to ensure best clinical outcomes.
- 1 Institute of choice for best clinical and nursing talent coupled with world-class infrastructure and equipment.

Ethical Conduct

- 1 Honest and transparent in doing the right thing for the patients by improving outcomes and not procedures.
- 1 Adherence to highest standards of professionalism with clear communication of treatment plan.

Patient Centric

- 1 Primacy to comfort and convenience of patients and their families.
- 1 A strong patient connect and trust through compassion and empathy.
- 1 Inclusive in embracing and respecting different backgrounds of patients.



BMB Chest Pain Centre is a 24x7 Emergency Unit of the hospital equipped to deal with most Critical Cardiac Emergencies

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Cardiovascular assist ICD

BMB Department of Cardiac Sciences
Patient Information Brochure

www.ckbirlahospitals.com

BMB, the first NABH accredited hospital in India is the only distinctive 204-bedded hospital in Eastern India dedicated to Cardiac Care with 75 CCU and HDU beds, 3 Cath Labs and 4 OTs. Catering to a wide spectrum of cardiac ailments in children and adults, the hospital has been tendering quality patient care, diagnosis, surgery and research for close to 30 years. Specialising in Adult and Paediatric Cardiac Care, the hospital houses eminent Cardiologists and Cardiac Surgeons who have efficiently performed over 1.90 lakh Cath procedures and 0.22 lakh Cardiac surgeries over the years.

ICD (Implantable Cardioverter Defibrillator)

The human heart works as a biological pump comprising four chambers – two smaller upper chambers called atria and two larger lower chambers called ventricles. Four chambers work together in coordination to produce powerful contraction (Heart beats) to constantly pump oxygen and nutrient rich blood to the entire body.

Normally, the pumping of the heart is controlled by steady electrical signals produced by the heart (SA Node) which then travels to the AV Node and the signals continue throughout the ventricle that causes the heart to contract and beat. These signals keep the heart beating steadily and rhythmically at about 60 to 80 beats per minute while at rest and up to 150 or more beats per minute during sustained strenuous exertions.

What is Arrhythmia?

An arrhythmia is caused by a disruption of your heart's normal electrical system, which regulates your heart rate and heart rhythm. It describes an irregular heartbeat ranging from too fast, too slow, too early, to irregular.

Bradycardia

Abnormal slow heart rate (below 60 beats/minute) is known as bradycardia.

Tachycardia

Fast heart rate (more than 100 beats per minute) is known as tachycardia, and abnormally fast heart rate of around 150-200 or more beats per minute is called tachyarrhythmia.

Ventricular Tachycardia (VT)

When the heart beats too quickly and abnormal fast impulses begin in the lower chamber, the fast arrhythmia is called a Ventricular Tachycardia (VT).

Ventricular Fibrillation (VF)

Regular VT can degenerate into a completely irregular, unstable and chaotic electrical activity, and as a result instead of contracting, ventricles just quiver ineffectively and no blood is pumped by the heart. This condition is called Ventricular Fibrillation and is the cause of cardiac arrest. The patient loses consciousness immediately after the commencement of VF and death occurs within minutes, unless life saving shock therapy is administered to the heart.

SCA (Sudden Cardiac Arrest)

Sudden Cardiac Arrest is the sudden, abrupt cessation of effective pumping of blood by the heart either due to stoppage of heart beat or quivering of heart due to VF or fast VT, leading to immediate loss of consciousness and death. It is a life threatening condition which can occur without any warning and can lead to sudden death if not treated with defibrillation shock or pacing within 4-6 minutes.

Defibrillation

It is a technique in which a brief high energy electric shock is administered to the heart to treat life threatening tachyarrhythmia (fast VT, VF etc.) and bring it back to normal rhythm.

What is an ICD?

An ICD (Implantable Cardioverter Defibrillator) is an electronic device that constantly monitors your heart rhythm. When it detects a very fast, abnormal heart rhythm, it delivers energy to the heart muscle, and brings the heart to beat back to a normal rhythm again. This may also be achieved by an automatic high rate burst of pacing for a very short period by the device.

Why is an ICD needed?

Ventricular tachycardia and ventricular fibrillation are two life threatening heart rhythm disturbances that causes the heart to beat very fast. These conditions can be fatal if not treated immediately. The doctor recommends an ICD when someone has had at least one episode of these heart rhythms or is at a high risk of developing these types of heart rhythms.

Who needs an ICD?

An ICD may be recommended for people who

- had a prior episode of sudden cardiac arrest.
- had a prior episode of ventricular fibrillation.
- had at least one episode of ventricular tachycardia.
- had a prior heart attack and have an increased risk for Sudden Cardiac Arrest (SCA) or Sudden Cardiac Death.
- have low Left Ventricular Ejection Fraction (LVEF) of less than 30-35%.
- have hypertrophic cardiomyopathy and high risk factor for SCA.

Benefits of implanting ICD

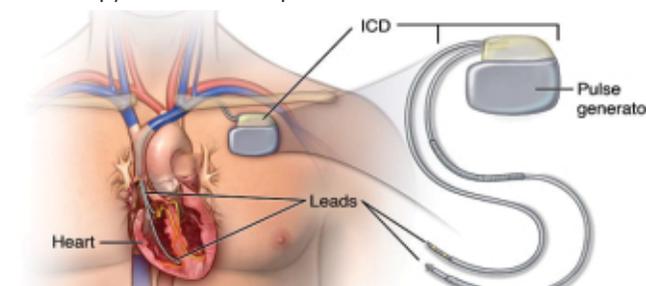
ICD is useful in preventing sudden death in patients with known, sustained ventricular tachycardia or fibrillation. Studies have shown ICD to have a role in preventing cardiac arrest in high risk patients who haven't had, but are at risk for life threatening ventricular arrhythmia. Newer generation ICD has a dual function which includes the ability to serve as pacemaker. The pacemaker features would stimulate the heart to beat if the heart rate is detected to be too slow.

How does an ICD work?

- The ICD monitors the heart rhythm, identifies abnormal heart rhythm and helps to return the heart beat to a normal heart rhythm.
- The ICD has a pacemaker feature. When the heart beat goes slow, it works as a pacemaker and sends tiny electric signals to the heart in order to keep it going at a normal rate.
- The ICD gives a short burst of rapid pacing or defibrillation shocks to stop the abnormal rhythm when the heart beat is too fast or chaotic. It works 24 hours a day.

How is the device implanted?

The implant procedure takes place in Cardiac Catheterization Laboratory (Cath Lab). The device is implanted with the patient under local anaesthesia only. The ICD is usually implanted using the endocardial (transvenous) approach. During the procedure, a local anaesthetic (pain relieving medication) is injected to numb the area. Small incision is made in the chest where the lead(s) and device are inserted. The lead is inserted through the incision and into a vein, then guided to the heart with the aid of the fluoroscopy machine. The tip of the lead is attached to the heart



muscle while the other end is attached to the pulse generator. The generator is placed in a pocket created under the skin in the upper chest. The device implant procedure may last for 1-1 1/2 hour and biventricular ICD may take 2-4 hours. When the endocardial approach is used, the hospital recovery time is generally 48 hours.

After the procedure

One may feel discomfort at the device implant site during the first 48 hours after the procedure. The doctor will guide what medications one can take for pain relief. The doctor or nurse needs to be briefed if the symptoms are prolonged or severe.

How do I live with ICD?

- Visit the doctor regularly.
- Stay away from magnets and strong electrical fields.
- At the airport, tell security screeners that you have an ICD.
- Tell your other doctors and your dentist that you have an ICD.
- If you go to a hospital, tell the doctors and nurses that you have an ICD.
- Carry device ID so others know that you have a defibrillator.