

Cardiac Resynchronization Therapy [CRT]



Cardiac Resynchronization Therapy [CRT]-
Typically for treatment of arrhythmia related to congestive heart failure.

What is cardiac resynchronization therapy?

More than 22 million people worldwide suffer from congestive heart failure [CHF], and up to 40 percent of patients with CHF also have an arrhythmia that further inhibits their heart's ability to beat and pump blood properly.

Cardiac resynchronization therapy [CRT] – also known as biventricular pacing – implants an electronic device that delivers small electrical impulses to the heart muscle through wires called leads, in order to get the left and right ventricles pumping together. Only when the lower chambers of the heart beat in synch can they contract with enough force to push blood through the body.

What does it treat?

- The ideal candidate for a CRT device is someone with moderate to severe CHF symptoms despite medication and lifestyle changes, with an enlarged and weakened heart muscle, and with a significant electrical delay within the ventricles.

Facts about cardiac resynchronization therapy

- CRT is performed in a hospital with the patient under anesthesia.
- The CRT procedure typically takes between two and five hours.
- The CRT device is an implantable cardioverter defibrillator [ICD] with a lead in each of the lower chambers, or ventricles, of the heart. This ICD resynchronizes the ventricles, monitors and regulates the heart's rhythm as needed, and can send an electric shock to correct arrhythmias.
- As with any procedure, there are risks. Of course, every precaution is taken to reduce risks. Your doctor will talk with you about the potential risks of the procedure.
- Your doctor or nurse will provide you with detailed directions about how to prepare for your CRT in terms of your medications, diet, etc.

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What happens during the procedure?

- You will be lying down, and a nurse will hook you up to an IV, which will deliver fluids.
- An anesthesiologist will administer medication via the IV to make sure you're comfortably asleep during the procedure.
- The doctor will numb an area of your upper chest, and make small incisions where the CRT device and the leads will be inserted.
- Three leads, which will carry electrical signals from the CRT device to your heart, are threaded through a vein and guided into the right atrium and both ventricles. The lead tips are attached to the heart muscle, and the other ends are attached to a battery-operated pulse generator, which is placed under the skin in your upper chest.
- Once the leads are in place, the doctor will test them to ensure they're located correctly, working properly, and the ventricles are synchronized. Once the leads have been tested, the doctor will attach them to the CRT device.
- Once the implant is complete, the doctor will use an external device to program the final rate and settings for your CRT device.

What will you feel?

- You might feel discomfort at the implant site for the first 48 hours following the procedure. If discomfort persists or becomes severe, call your doctor.

What happens afterward?

- Once you're fully awake, your doctor will talk with you and your loved ones about the procedure and its results.
 - You will need to stay at the hospital overnight. Typically, you can go home the next day.
 - Arrange for a ride to and from the hospital, and for help at home following the procedure.
 - The CRT device will be monitored regularly at followup appointments, during which your doctor will check your device's function and battery life.
 - You will also receive a temporary ID card that indicates the type of pacing device and leads you have, the implant date and your doctor's name. Carry this card with you at all times, in case you require medical care. You will receive a permanent card within three months.
 - CRT improves heart function, quality of life, and survival of CHF patients.
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