**Living with a Pacemaker or Implantable Cardioverter Defibrillator (ICD)**

Pacemakers and ICDs generally last five to seven years or longer (depending on usage and the type of device) and, in most cases, allow a person to lead a normal life. In addition, advances in device circuitry and insulation have reduced the interference risk from machinery, such as microwaves, which, in the past, may have altered or otherwise affected these surgically implanted cardiac devices. Even so, certain precautions must be taken into consideration when a person has a pacemaker or ICD.

**What precautions should I take with my pacemaker or ICD?**

The following precautions should always be considered. Discuss the following in detail with your doctor:

* Although it is generally safe to go through airport or other security detectors (they will not damage the pacemaker or ICD), inform airport security personnel that you have a pacemaker before you go through security, as the device may set off the alarm. Also, if you are selected for a more detailed search, politely remind security that the hand-held metal-detecting wand should NOT be held over the pacemaker for a prolonged period of time (more than a second or two), as the magnet inside the detecting wand may temporarily change the operating mode of your device. Do not lean against or stay near the system longer than necessary.
* Avoid magnetic resonance imaging (MRI) machines or other large magnetic fields, as these may affect the programming or function of the pacemaker (except for special types of pacemakers or ICDs that are designed to tolerate MRI scans). Also, the rapidly changing magnetic field within the MRI scanner can, in theory, cause heating of the pacemaker leads. In general, there are alternatives to MRI for people with pacemakers, but if your doctor determines that you absolutely need an MRI scan, discuss this thoroughly with your cardiologist before proceeding. If he or she and you agree to go ahead, you should be closely monitored by a cardiologist, with a pacemaker programming device immediately available, during MRI scanning.
* Abstain from diathermy (the use of heat in physical therapy to treat muscles).
* Turn off large motors, such as cars or boats, when working on them since they may temporarily "confuse" your device.
* Avoid certain high-voltage or radar machinery, such as radio or television transmitters, arc welders, high-tension wires, radar installations, or smelting furnaces.
* Cell phones available in the U.S. (less than 3 watts) are generally safe to use. Advancements in cell phone frequency technology could potentially impact device function. A general guideline is to keep cell phones at least six inches away from your device. Avoid carrying a cell phone in your breast pocket over your pacemaker or ICD.
* MP3 player headphones may contain a magnetic substance that could interfere with your device function when in very close contact. It is recommended that the headphones be kept at least 1.2 inches or 3 centimeters (cm) away from the device. They can be worn properly in the ears and not pose this risk. Do not drape your headphones around your neck, put your headphones in your breast pocket, or allow a person with headphones in to press against your device.
* If you are having a surgical procedure performed by a surgeon or dentist, tell your surgeon or dentist that you have a pacemaker or ICD. Some surgical procedures will require that your ICD be temporarily turned off or set to a special mode; however, this will be determined by your cardiologist. Temporarily changing the mode on your pacemaker can be performed noninvasively (no additional surgery is required), but should only be performed by qualified medical personnel.
* Shock wave lithotripsy, used to get rid of kidney stones, may disrupt the function of your device without appropriate preparation. Ensure that your doctor is aware you have a pacemaker or ICD before scheduling this procedure.
* Therapeutic radiation, such as that used for cancer treatments, can damage the circuits in your device. The risk increases with increased radiation doses. Appropriate precautions should be taken. Inform your doctor that you have a pacemaker or ICD before undergoing radiation treatments.
* Always carry an ID card that states you have a pacemaker or ICD. It is recommended that you wear a medic alert bracelet or necklace if you have a device.

Always consult your doctor or device company if you have any questions concerning the use of certain equipment near your pacemaker or ICD.

**Can I participate in regular, daily activities with a pacemaker or ICD?**

Once the device has been implanted, people with pacemakers or ICDs should be able to do the same activities everyone else in their age group is doing. When you have a pacemaker or ICD, you may still be able do the following:

* Exercise on advice from your doctor
* Drive your car or travel if cleared by your doctor
* Return to work
* Work in the yard or house
* Participate in sports and other recreational activities
* Take showers and baths
* Continue sexual relationships

When involved in a physical, recreational, or sporting activity, a person with a pacemaker or ICD should avoid receiving a blow to the area over the device. A blow to the chest near the pacemaker or ICD can affect its functioning. If you do receive a blow to that area, see your doctor.

Always consult your doctor if you feel ill after an activity, or when you have questions about beginning a new activity.

**How can I ensure that my pacemaker or ICD is working properly?**

Although your device is built to last at least five years, you should always have it checked regularly to ensure that it is working properly. Different doctors may have different schedules for checking devices, and most are checked in the home using a telephone and special equipment provided by your device manufacturer. Your doctor will recommend in-person device checks at specific intervals as well. Any device setting changes must be made in person, by a trained medical professional, using a device programmer.

Battery life, lead wire condition, and various functions are checked by performing a device interrogation. During an interrogation the device is noninvasively connected to a device programmer using a special wand placed on the skin over the pacemaker or ICD. The data is transmitted from the device to the programmer and evaluated. Most in-home device interrogation systems use wireless technology to connect the device to special equipment that records the data and sends it to your doctor.

Your doctor may ask you to check your pulse rate periodically. Report any unusual symptoms or symptoms similar to those you had prior to the device insertion to your health care provider immediately.

Always consult your doctor for more information, if needed.