



## **Magnets**

### ***Do magnets affect pacemaker and ICDs?***

First, it may be helpful to review a known fact about magnets. Items that have electric and magnetic components have an “electromagnetic” energy field around them. Even though most electromagnetic fields in the home environment will rarely affect the function of a pacemaker or ICD, it is recommended you keep any item containing magnets away (at least 6 inches/15 centimeters) from your pacemaker or ICD. The reason for this is because there is a small magnetically activated switch built into the electronics of pacemakers and ICDs. This internal switch is designed to close when a magnet of sufficient strength is placed over it.

When the internal switch is closed in the pacemaker, the pacemaker paces the heart at a continuous pre-set rate (which could be different than the rate your doctor programmed). When the internal switch is closed in an ICD, it prevents the ICD from delivering treatment therapies (shocking your heart out of a life-threatening rhythm). Removing the magnet returns the pacemaker/ICD back to its previous, normal programming.

### ***Aren't magnets used as part of a pacemaker/ICD monitoring?***

Yes, the programmer head containing a magnet (or other powerful magnet) could be applied over your pacemaker/ICD as part of your device monitoring. Holding a magnet over a pacemaker/ICD closes the internal switch so monitoring and testing can begin. For example, data stored in your device since the last clinic visit can then be retrieved for analysis, or the battery can be tested. The switch opens back up again when the magnet is removed without any permanent effect to your pacemaker/ICD.

### ***What are the guidelines for using items with magnets around the home?***

As a general rule, maintain a minimum distance of 6 inches (15 centimeters) between any household item with magnets and your implantable device. (An industrial work environment may require a further separation than 6 inches/15 centimeters.) By maintaining a 6 inch (15 centimeters) separation, you can use everyday items that include magnets such as:

- Decorative refrigerator magnets
- Large home stereo speakers
- Small gas engines
- Hand-held massagers or massage chair cushions
- Magnetic therapy products such as massagers, chair pads, bracelets, knee wraps, back supports, slippers, or shoe insoles

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The use of magnet mattress pads and pillows is not recommended since it would be difficult to keep a 6 inch (15 centimeter) separation from your implantable device.

You may not always know if an item has a magnet in it. However, if you use household items as they are intended, and they are properly maintained, they will have no affect on your pacemaker or ICD. This includes microwaves, kitchen appliances, cordless phones, radios, televisions, video games, CD players, hair dryers, electric shavers, electric toothbrushes, electric blankets, leaf blowers, lawn mowers, garage door openers, computers, and small shop tools. If you mistakenly place a magnet item too close to your pacemaker or ICD, simply move the item away. Your pacemaker or ICD will immediately return to its previous normal programming. There will be no damage or reprogramming effects to your implantable device.