

# Nuclear-Powered Cardiac Pacemakers

## Off-Site Source Recovery Project Fact Sheet

### Background:

Pacemakers are used to stimulate a regular heartbeat when the body's natural electrical pacing system is irregular or not transmitting properly. Over the years, various power sources have been used for pacemakers, including a radioactive material called plutonium-238. There are still a number of people in the U.S. who have nuclear powered pacemakers, which need to be disposed of properly upon removal.

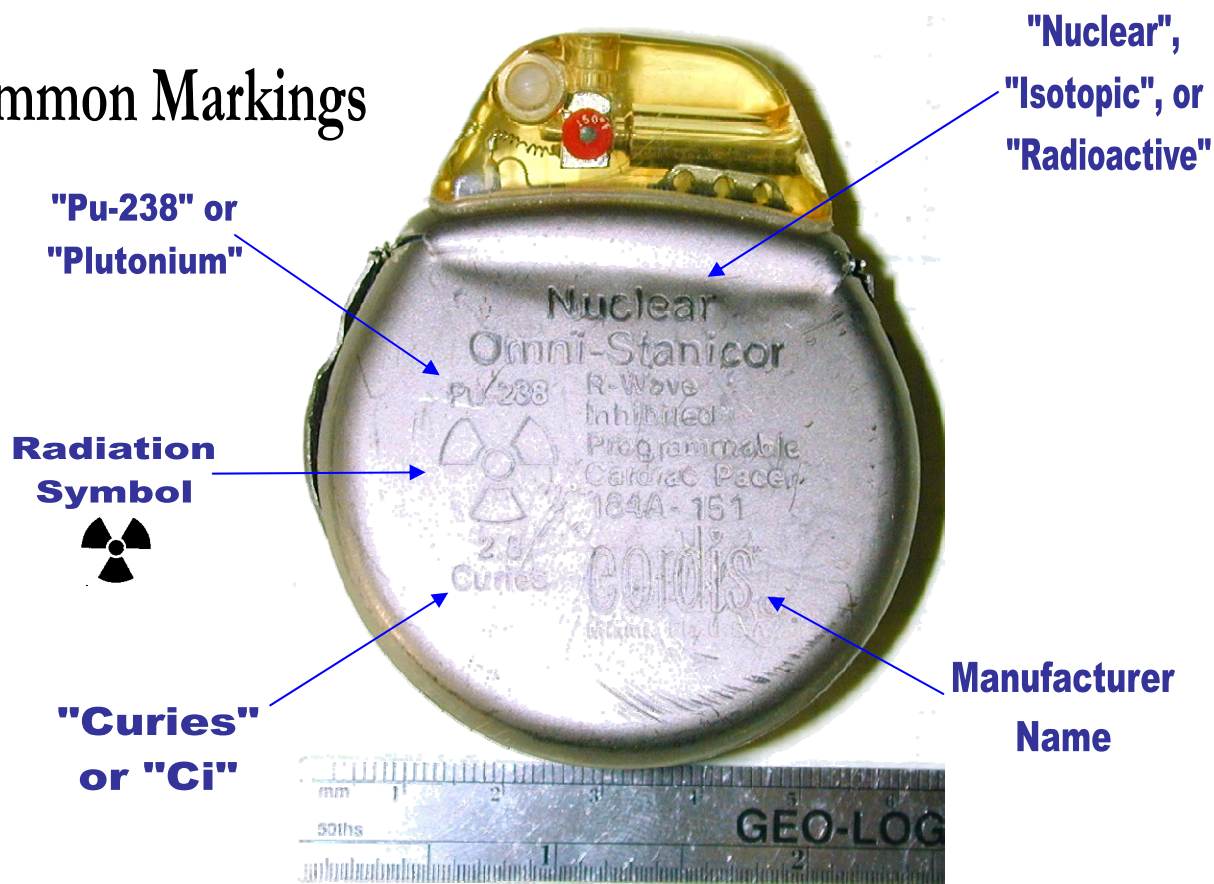
### What to look for:

Unfortunately, not all pacemakers look the same. Different indicators may be used to determine if a pacemaker is nuclear-powered, or non-nuclear. Observe the markings on the pacemaker body. If you see the word "Nuclear" or "Curies" – or if you see the radiation symbol, or the abbreviation "Pu-238," the device battery does indeed contain radioactive material. If none of these markings occur, chances are the pacemaker is non-nuclear and simply contains a chemical-type battery.

Nuclear-powered cardiac pacemakers were manufactured by many companies. If one of the following manufacturer names appears on the device, it may contain radioactive material: ARCO (Perma-grain), Medtronic (Laurens-Alcatel), Gulf General Atomic, Cordis (Telekronic, Accuffix), American Optical, Biocontrol Technology (Coratomic), and Medical Devices, Inc (MDI).

*[Please see the back of this fact sheet for additional photos and to find out what to do if you discover a nuclear-powered pacemaker.]*

## Common Markings



## What to do if you find a nuclear-powered cardiac pacemaker:

Upon explantation and sterilization, please observe the markings on the pacemaker.

If any of the markings indicate that the device contains radioactive material, please contact OSRP for shipping and disposal instructions:

**Email:** [osrp@lanl.gov](mailto:osrp@lanl.gov)  
**Phone:** 505.667.7440  
**Toll Free:** 877.676.1749  
**Fax:** 505.665.7913

If the markings do not indicate that the pacemaker contains radioactive material, you do not have to contact OSRP. Instead, due to the chemical nature of the battery, contact your state solid waste authorities for information on proper disposition.



## Other Samples of Nuclear-Powered Pacemakers



**Contact the OSRP Office:**  
**Email:** [osrp@lanl.gov](mailto:osrp@lanl.gov)  
**Phone:** 505.667.7440  
**Toll Free:** 877.676.1749  
**Fax:** 505.665.7913