Electrical Arc Welding and Implantable Device Systems

BACKGROUND INFORMATION

Electric arc welding refers to a process that uses a welding power supply to create an electric arc between two metals. The intense heat generated by an electric arc melts and intermixes the metals to create a bond (joint) as strong as its parts.

ICD: Implantable Cardioverter Defibrillator
CRT-D: Cardiac Resynchronization Therapy Defibrillator
CRT-P: Cardiac Resynchronization Therapy Pacemaker

CRM PRODUCTS REFERENCED*

All ICDs, CRT-Ds, CRT-Ps, and Pacing Systems

*Products referenced herein may not be approved in all geographies. For comprehensive information on device operation, reference the appropriate product labeling.

CRM CONTACT INFORMATION

Technical Services – U.S.
1.800.CARDIAC (227.3422)
Tech.Services@bsci.com

Technical Services – Europe
+32 2 416 7222
eurtechservice@bsci.com

LATITUDE Clinician Support
1.800.CARDIAC (227.3422)
latitude@bsci.com

Patient Services
1.866.484.3268 – U.S. and Canada
001.651.582.4000 – International

The electrical signals generated from certain arc welders may interfere with the proper function of ICDs, CRT-Ds, CRT-Ps or pacing systems. Such interference should be avoided if possible, as it may have the potential to mimic the electrical activity of the heart or be interpreted by the device as electrical noise. The interference described above may result in temporary asynchronous pacing (loss of coordination between the heart and the device), inhibition of pacing and/or shock therapy (therapy not delivered when required), or inappropriate tachyarrhythmia therapy (therapy delivered when not required).

Considerations for Arc Welding

Should arc welding be used, Boston Scientific recommends that patients maintain a distance of 24 inches (60 centimeters) between their implanted device and the arc welding equipment. If symptoms of faintness, dizziness, nausea, shocks etc. are felt, stop immediately and step away from the area or turn off the equipment. The risk of interference is minimized by using the lowest current setting possible. Arc welding equipment commonly operates within the following amperage ranges:

Arc welder types	Amperage range
TIG and MIG (tungsten inert gas and metal inert gas)	3A to 675A
AC and Plasma	3A to 275A
DC	3A to 400A

Other common arc welding considerations include, but are not limited to:

1. Strictly follow the safety precautions mentioned in the Welder manual.
2. Work in a dry area. Wear dry, nonconductive gloves.
3. Keep all cables straight, close together, and extending away from the body. Do not coil cables.
4. Arrange the work area so that the handle and rod will not contact the metal being welded should they be dropped.
5. Do not weld with rapidly repeating short bursts, as they are more likely to be interpretted as electrical activity of the heart; wait several seconds between welds.
6. Ensure all equipment is properly grounded.