



Standard Practice for Security Checkpoint Metal Detector Screening of Persons with Medical Devices¹

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1. Scope

1.1 The following practice is intended to address the needs and concerns of persons with implanted, active, medical devices or active ambulatory medical devices, as well as passive implanted medical devices, while maintaining the integrity of the security checkpoint.

1.2 Active and passive implanted medical devices are being used at an increasing rate as a means to prolong and improve quality of life. Although these medical devices are typically designed to operate in the electromagnetic environment experienced in daily life, there is a potential for the disruption of active medical device function when exposed to certain electromagnetic fields emitted by commonly encountered electrically powered products, including handheld and walk-through metal detectors used in security checkpoint screening. In addition, some active or passive implanted devices may trigger the unintended alarm of the metal detector.

1.3 The values stated in SI units are to be regarded as the standard. The values shown in parentheses are for information only.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ISO Standards:²

ISO 14117 Active implantable medical devices – Electromagnetic compatibility – EMC test protocols for implantable cardiac pacemakers, implantable cardioverter defibrillators, and cardiac resynchronization devices

¹ This practice is under the jurisdiction of ASTM Committee F12 on Security Systems and Equipment and is the direct responsibility of Subcommittee F12.60 on Controlled Access Security, Search, and Screening Equipment.

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² Available from International Organization for Standardization (ISO), ISO Central Secretariat, BIBC II, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland, <http://www.iso.org>.

ISO 14708-1 Implants for surgery – Active implantable medical devices – Part 1: General requirements for safety, marking and for information to be provided by the manufacturer

ISO 14708-2 Implants for surgery – Active implantable medical devices – Part 2: Cardiac pacemakers

ISO 14708-3 Implants for surgery – Active implantable medical devices – Part 3: Implantable neurostimulators

ISO 14708-4 Implants for surgery – Active implantable medical devices – Part 4: Implantable infusion pumps

ISO 14708-5 Implants for surgery – Active implantable medical devices – Part 5: Circulatory support devices

ISO 14708-6 Implants for surgery – Active implantable medical devices – Part 6: Particular requirements for active implantable medical devices intended to treat tachyarrhythmia (including implantable defibrillators)

ISO 14708-7 Implants for surgery – Active implantable medical devices – Part 7: Particular requirements for cochlear implant systems

3. Terminology

3.1 Definitions:

3.1.1 *active medical devices*, *n*—electrically powered medical devices, usually employing electronic circuitry, for human physiological monitoring or to deliver medical treatment or therapy such as drugs or electrical stimulation. These devices can be implanted, patient worn, or both.

3.1.2 *ambulatory medical devices*, *n*—any medical device (active or nonactive) that can be body mounted, worn, implanted, or otherwise mobile with the patient and thus subject to screening at the security checkpoint.

3.1.3 *archway*, *n*—physical structure of a walk-through metal detector.

3.1.4 *electromagnetic field*, *n*—when referenced in this practice, it describes the energy field created by the metal detector as a means to produce a response to materials with electrical conductivity or magnetic susceptibility, or both. The electromagnetic fields used in metal detectors for security screening applications are typically low frequency and vary with time and locations.