



## Commonly Asked Questions

### STATIC ELECTRICITY and Cochlear Implants

Cochlear implants provide your child with an opportunity to develop listening and language skills. Advanced Bionics understands that there are many items to learn about with regard to the care and use of a child's sound processor. One of those items is an understanding of how static electricity can affect the cochlear implant system. This document provides answers to commonly asked questions about static electricity and cochlear implants.

High levels of static electricity, when discharged, theoretically can damage both internal and external cochlear implant equipment, just as it can damage any electronic piece of equipment. Because of this, AB provides the following information for schools to understand the risks of static electricity—or electrostatic discharge (ESD)—as well as safeguards to minimize damage to cochlear implant equipment from ESD.

#### What is Static Electricity?

Static electricity occurs when electrical charges build up on the surface of a material. This is usually caused when different materials are rubbed together. Examples of static electricity include static cling, flyaway hair, and the sparks that can occur when you touch something.

#### What is Electrostatic Discharge (ESD)?

ESD is transfer of a charge between two materials at different electric potentials.

#### What are some common examples of when ESD might occur?

- Sliding on plastic slides
- Exiting automobiles
- Pulling sweaters on and off

- Touching TV screens and computer monitors
- Removing bedding materials
- Playing on trampolines
- Rubbing balloons against hair
- Retrieving toys from plastic trash bags
- Using plastic shopping carts with special attachments for kids

#### What precautions has Advanced Bionics taken in designing its sound processors to minimize the effects of ESD?

- All Advanced Bionics cochlear implant systems are robustly designed with numerous safeguards against ESD, which in turn greatly minimizes any risk of damage. The remote possibility still exists, however, with extremely high levels of ESD, that damage may occur.

#### Are there any precautions that parents and school professionals may want to take in order to reduce ESD in the school or home environment?

- Use metal furniture instead of plastic furniture
- Use anti-static mats and carpets
- Use anti-static monitors and computer screens
- Wear leather-soled shoes instead of rubber
- Wear natural fiber clothing materials, e.g., cotton, silk, etc.
- Use fabric softener when washing clothes and bedding
- Remove sound processor and headpiece before playing on playground equipment, e.g., plastic slides, plastic tubes, and trampolines or re-direct the child's activities to avoid playing on these items.

For questions or additional information:

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