

COCHLEAR IMPLANT (CI) FACT SHEET

FOR CI Users and Parents
of CI Users



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There are many questions surrounding Cochlear Implants (CIs). This document serves as a basic fact sheet to bring clarity to areas where caution is needed, whilst correcting some of the myths that exist through clarifying areas of confusion. Knowledge facilitates informed choice. This covers most of the more commonly queried areas, but does not cover details related to candidacy, as it is always a good idea to discuss your specific situation with your CI team. Making a choice which best fits the individual is what makes a choice most appropriate.

The following four sections address some of the topics that sometimes cause confusion, thereby leading to myths and false beliefs. Typically, discussion around caution with electrical stimuli, the concerns involving recreational activities, the nature of the surgery, and issues around medical imaging, tend to cause the most concern.

A CI user needs to be aware of Situations Involving electrical stimulation

- Surgery which involves electricity requires caution.
- Shocks to the head and neck area need to be avoided. Electroconvulsive therapy (ECT) which can be used to treat extreme depression, is an example of this.
- TENS (Transcutaneous Electrical Nerve Stimulation) electrical stimulation that may be used as part of physiotherapy needs to be avoided around the head and neck regions.
- The life-saving procedure during a resuscitation, known as defibrillation, poses minimal risk as this is conducted over the chest area. The external processor should ideally be removed for this. This however is conducted during a life and death emergency, so the benefits of saving the life, far outweigh any risks.
- Monopolar electrical current techniques are contraindicated for people with Cochlear Implants. It is wise to inform your dentist of the implant, so that they can opt for appropriate and safe technique for a planned procedure.
- EEGs (electroencephalograms) used to monitor seizure activity pose no risk, as this simply measures electrical impulses.

Cochlear Implants and Recreational Activities

- CI users may still sky dive. The risk of a head injury needs to be considered, and protective headgear worn. It is advisable to remove external parts to avoid losing them in free fall.
- Scuba diving can be safely enjoyed up to 30 – 50 m (165 ft). Discuss specifics with your CI company. External parts should, however, be removed.
- Swimming may be safely enjoyed. If using external parts, protective waterproof casing will be needed, and alkaline or rechargeable batteries need to be used. Swimming without the external parts, can be safely enjoyed.
- Amusement rides which use magnetic forces as their braking system. There is no reason why amusement rides cannot be enjoyed by CI users. It is advisable to remove external parts to avoid losing them.
- Contact sports can be engaged in after discussion with your ENT (Ear, Nose and Throat) Specialist and implant company. Generally, a CI user's life need not be restricted. Adequate protective headgear, however, is strongly recommended. Securing of external parts to prevent loss is also necessary.
- The typical risks with regards to the above, as for anyone who is not implanted, obviously apply to CI users also.
- Static electricity balls: these can be engaged with but one should avoid contact with the head.
- General static electricity contact: trampolines and jumping castles which might result in static electricity can still be enjoyed. Precautions to avoid head injury and damage due to falling off external parts need to be considered.

Cochlear Implants and MRIs/other imaging

- As a general rule, consult your ENT and CI company. Many new CIs are compatible with certain strengths of Magnetic Resonance Imaging (MRI). It is necessary that you inform the radiologist of the implant, so that careful planning can be done. It is recommended that one removes external parts during the MRI. Supportive head bandaging can also be done. Where MRI risk is high or incompatibility is evident, a minor surgical procedure can allow for temporary removal of the magnet, to allow for safe MR imaging. This applies to an MRI on ANY part of the body.
- CT (Computerised Tomography) scanning is safe.
- X-RAY imaging is safe.
- Ultrasound imaging around the head and neck, needs to be discussed individually

The safety of the CI surgery

- A CI is not brain surgery. It is considered equivalent to middle ear surgery with some inner ear extension.
- There are risks involved, but the frequency of these are much less than one often thinks. Please discuss these with your ENT specialist. Precautions are taken to minimize these. Any surgery carries common risks such as bleeding and infection.
- The anesthetic risks are similar to those of any surgery. These can be discussed preoperatively with your anesthetist.
- It is recommended that cautionary antibiotics are used to prevent infections.
- Repeated surgeries to upgrade the internal parts, are generally not needed. The technology is designed to be lifelong. The external parts are upgraded about every 3 years.
- Prior to Cochlear Implantation, it is recommended that patients receive immunization against Streptococcus Pneumonia. For children under the age of 2 years who have been immunized according to the South African EPI, (Extended Program on Immunization) they should have received the PCV13 (Prevenar) vaccine at 6 weeks, 14 weeks and 9 months. This is deemed to be sufficient to cover children under the age of 5 years that are planned for Cochlear Implantation. Children that are to undergo cochlear implantation over the age of 2 years are to receive 1 dose of PPSV23 (Pneumovax23) vaccine a month prior to surgery. There should be 8 weeks between receiving PCV13 and the PPSV23. There is no need for any boosters, unless more than 5 years have passed since the PPSV23 vaccine or the child is immunocompromised.

It is wise to consult the websites for your CI type, and be in discussion with your ENT surgeon and audiologist when you have queries.

Cochlear: www.cochlear.com

Medel: www.medel.com

Advanced Bionics: www.advancedbionics.com

Thanks to MED-EL resources and consultants for the information and input, as well as the Durban Cochlear Implant team.

www.durbancochlear.com

Disclaimer: Please take note that this Fact Sheet has been prepared to clarify certain matters relating to CI's and is not intended to be relied on without further investigations by the reader of the specific circumstance of the CI User. The reader relies on the information contained herein entirely at his/her own risk. The writer shall not, in any way, be liable for any injury, death, loss (pecuniary or otherwise), damage, claims or costs arising from any person's reliance of any provision of this Fact Sheet.