

# Magnetic Resonance Imaging (MRI) Exam recommendations

## Digisonic® SP cochlear implant system

### Digisonic® SP implant range

Digisonic® SP, Digisonic® SP EVO,  
Digisonic® SP ABI, Digisonic® SP Binaural



#### General information:

- The Oticon Medical Digisonic® SP cochlear implant is compatible with 1.5 Tesla MRI exams. The 'usual position' of the patient's head must be scrupulously respected (Fig. 2).
  - The **void signal area** is less than 70 mm around the implant when using spin echo sequences.
  - The torsion exerted on the implant must be taken into account. In the 'usual position' (Fig. 2) the torsion applied to the implant can force it to turn so that it is up against the skin. For a 1,5 Tesla MRI, the force is 3,5N (the maximum required by the standard is 10N).
  - The implant magnet may end up being demagnetized when a 1,5 Tesla MRI exam is carried out in respect of the acceptable limits. The protocol must be strictly followed and the 'usual position' of the patient's head respected (Fig.2). In case of insufficient magnetism of the implant after the examination, the magnet force of the sound processor antenna can be increased to counterbalance. Please contact Oticon Medical (info@oticonmedical.com).
4. To perform an examination that requires that the patient's head should be placed in the center of the tunnel, the head must be placed in the 'usual position' at least 30 cm before it reaches the tunnel entrance (see Fig.2).
  5. Note that in the 'usual position', the implant will not be overheated, nor will it exceed induced voltage that is created during the MRI exam.
  6. If the patient is a bilateral Digisonic® SP recipient, the same procedures outlined in this document must also be followed for the contralateral implant.
  7. With some types of Digisonic® SP implants, it is possible that the patient may experience auditory sensations such as crackling, beeping and/or a humming sound during an MRI exam. The patient should be advised of this possibility and that it does not indicate device malfunction or damage.

#### Recommendations

1. Make sure that the cochlear implantation was carried out at least 6 months prior to the MRI exam.
2. The patient's sound processor (external part) must be switched off and removed together with all external accessories.
3. Before the exam is carried out, a compression bandage must be placed on the patient's head to provide better support and prevent the implant from moving during the examination (see Fig. 1). No specific type of bandage is required. NB: the implant must be located in the middle of the bandage.

#### Caution:

- **The only position in which torsion and demagnetization are acceptable is with the head parallel to the main field.**
- **With any other position of the head, the implant may be overheated during the MRI examination. Therefore, the exceeding voltage induced in the receiver may damage the implant and injure the patient.**



Figure 1.

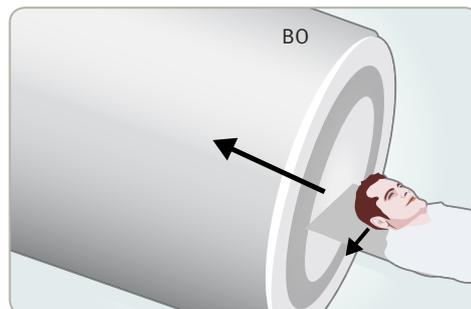


Figure 2. Usual position