MED-EL

MRI Checklist for MED-EL CI models

Mi1200 SYNCHRONY | Mi1200 SYNCHRONY PIN

If the conditions or instructions herein are NOT followed, **INJURY** to the patient and/or **DAMAGE** to the implant may result!
→ **VALID** for all intracochlear electrode variants
→ **VALID** for all body regions
In case of additional implants, e.g. a hearing implant in the other ear: MRI safety guidelines for this implant need to be considered in addition.

The external components of the MED-EL Implant System (audio processor and accessories) are MR Unsafe and need to be removed prior to scanning.

The implant components of the MED-EL Implant System are MR Conditional.

GENERAL CONDITIONS

→ **PERMITTED**, static magnetic field strength		**0.2 T, 1.0 T, 1.5 T, 3.0 T**
→ **MAXIMUM PERMITTED** SAR (at 0.2 T, 1.0 T, 1.5 T)		**NORMAL OPERATING MODE** 3.2 W/kg (Head), 2.0 W/kg (Whole-Body)
→ **MAXIMUM PERMITTED** SAR (at 3.0 T)	Head	**1.6 W/kg**
	Whole Body <35 cm from the top of the head	**1.0 W/kg**
	Whole Body ≥35 cm from the top of the head	**2.0 W/kg**

NOTE: For head examinations and examinations of the body that are less than 35cm from the top of the head, the MRI system must have the ability to set a reduced maximum specific absorption rate (SAR) or to display the estimated maximum SAR value.

PREPARATION

- **PATIENT ID CARD** ○ OK
  Request patient ID card in order to identify the implant type
- **IMAGE ARTEFACT**
  Is an accurate diagnosis possible even with the expected image artefact?
  ○ YES → continue (next bullet point)
  ○ NO → decide if the magnet should be removed

  MAGNET REMOVAL
  Has the implant magnet been surgically removed?
  ○ *YES → continue*
  ○ *NO → STOP*
- **AUDITORY/NON-AUDITORY SENSATIONS** ○ OK
  Inform the patient about possible auditory and non-auditory sensations during the examination.
  NOTE: The likelihood and intensity of auditory and non-auditory sensations can be reduced by selecting sequences with a lower Specific Absorption Rate (SAR) and slower gradient slew rates.
- **HEAD ORIENTATION** (only applicable at 1.0T, 1.5T, 3.0T) ○ OK
  Inform the patient not to tilt their head to either side.
- **EXTERNAL COMPONENTS** ○ OK
  Remove audio processor and accessories before entering the scanner room.
- ○ *OPTIONAL HEAD BANDAGE* ○ *OK*
  A supportive head bandage over the implant using an elastic bandage wrapped tightly around the head for at least three times can optionally be used.

NOTE: In rare cases the patient might perceive a clicking sound upon entry in the MRI scanner tube.

EXECUTION

NOTE: To reduce the likelihood and degree of patient discomfort, the patient should keep their head away from the scanner wall near the entrance of the scanner.

- **PATIENT POSITIONING** (only applicable at 1.0T, 1.5T, 3.0T) ○ OK
  The patient should be lying in the scanner in a supine, prone or side position with the head kept straight.
  NOTE: When lower extremities are to be examined, it is recommended that patient's legs are positioned in the scanner first.
- **OPERATING MODE** (only applicable at 0.2T, 1.0T, 1.5T) ○ OK
  Run sequences in "Normal Operating Mode" only.
  NOTE: max. 3.2 W/kg for Head scans, 2.0 W/kg for Whole-Body scans
- **OPERATING MODE** (only applicable at 3.0T) ○ OK
  Apply maximum permitted SAR according to following table only:

SAR (Head)	SAR (Whole-Body)	
	<35 cm from the top of the head	≥35 cm from the top of the head
1.6 W/kg	1.0 W/kg	2.0 W/kg

- **ACCESSORIES** (only applicable at 3.0T) ○ OK
  Do not utilise head transmit coils or multi-channel transmit coils.

NOTE: In rare cases temporary pain or discomfort may occur in the implant area during MRI even if all protocols and bandaging instructions are followed.

Mi1200 SYNCHRONY | Mi1200 SYNCHRONY PIN

Full MRI Safety Information is available in your "Medical Procedures Manual" and/or on www.medel.com/isi/
Checklist available for download in printout format on www.medel.com/isi/

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MED-EL

MRI Checklist for MED-EL CI models

Mi1000 CONCERTO | Mi1000 CONCERTO PIN | SONATA

If the conditions or instructions herein are NOT followed, **INJURY** to the patient and/or **DAMAGE** to the implant may result!
→ **VALID** for all intracochlear electrode variants
→ **VALID** for all body regions
In case of additional implants, e.g. a hearing implant in the other ear: MRI safety guidelines for this implant need to be considered in addition.

	The external components of the MED-EL Implant System (audio processor and accessories) are MR Unsafe and need to be removed prior to scanning.	
	The implant components of the MED-EL Implant System are MR Conditional.	

GENERAL CONDITIONS

→ **PERMITTED**, static magnetic field strength	**0.2 T, 1.0 T, 1.5 T**
→ **MAXIMUM PERMITTED** SAR	**NORMAL OPERATING MODE, i.e.** 3.2 W/kg (Head), 2.0 W/kg (Whole-Body)

PREPARATION

- **PATIENT ID CARD** ○ OK
  Request patient ID card in order to identify the implant type
- **IMAGE ARTEFACT**
  Is an accurate diagnosis possible even with the expected image artefact?
  ○ YES → continue
  ○ NO → STOP
- **AUDITORY/NON-AUDITORY SENSATIONS** ○ OK
  Inform the patient about possible auditory and non-auditory sensations during the examination.
  NOTE: The likelihood and intensity of auditory and non-auditory sensations can be reduced by selecting sequences with a lower Specific Absorption Rate (SAR) and slower gradient slew rates.
- **HEAD ORIENTATION** (only applicable at 1.0 T, 1.5 T) ○ OK
  Inform the patient not to tilt their head to either side.
- **EXTERNAL COMPONENTS** ○ OK
  Remove audio processor and accessories before entering the scanner room.
- **HEAD BANDAGE** (only applicable at 1.0 T, 1.5 T) ○ OK
  Place a supportive headband over the implant.
  NOTE: The bandage may be an elastic bandage wrapped tightly around the head at least three times.

EXECUTION

NOTE: To reduce the likelihood and degree of patient discomfort, the patient should keep their head away from the scanner wall near the entrance of the scanner.

- **PATIENT POSITIONING** (only applicable at 1.0 T, 1.5 T) ○ OK
  The patient should be lying in the scanner in a supine, prone or side position with the head kept straight.
  NOTE: When lower extremities are to be examined, it is recommended that patient's legs are positioned in the scanner first to minimize any risk of weakening the implant magnet.
- **OPERATING MODE** ○ OK
  Run sequences in "Normal Operating Mode" only.
  NOTE: max. 3.2 W/kg for Head scans, 2.0 W/kg for Whole-Body scans

NOTE: In rare cases temporary pain or discomfort may occur in the implant area during MRI even if all protocols and bandaging instructions are followed.

Mi1000 CONCERTO | Mi1000 CONCERTO PIN | SONATA

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MED-EL

MRI Checklist for MED-EL CI models

PULSAR | C40+

If the conditions or instructions herein are NOT followed, **INJURY** to the patient and/or **DAMAGE** to the implant may result!

→ **VALID** for all electrode variants
→ **VALID** for all body regions
→ **VALID** for unilateral as well as bilateral implant provision

The external components of the MED-EL Implant System (audio processor and accessories) are MR Unsafe and need to be removed prior to scanning.

The implant components of the MED-EL Implant System are MR Conditional.

GENERAL CONDITIONS

→ **PERMITTED**, Static Magnetic Field Strength	**0.2 T, 1.0 T, 1.5 T**
→ **MAXIMUM PERMITTED** SAR	**NORMAL OPERATING MODE, i.e.** 3.2 W/kg (Head), 2.0 W/kg (Whole-Body)

PREPARATION

- **PATIENT ID CARD** ○ OK
  Request patient ID card in order to identify the implant type
- **IMPLANT CONDITION**
  Is the implant housing mechanically intact? (not fractured or shattered)
  ○ YES → continue
  ○ NO → STOP
- **IMPLANTATION STATUS**
  Has the implant been implanted for at least six months?
  ○ YES → continue
  ○ NO → STOP
- **BONE THICKNESS**
  Is the bone underneath the implant at least 0.4 mm thick?
  ○ YES → continue
  ○ NO → STOP
- **IMAGE ARTEFACT**
  Is an accurate diagnosis possible even with the expected image artefact?
  ○ YES → continue
  ○ NO → STOP
- **AUDITORY/NON-AUDITORY SENSATIONS** ○ OK
  Inform the patient about possible auditory and non-auditory sensations during the examination.
  NOTE: The likelihood and intensity of auditory and non-auditory sensations can be reduced by selecting sequences with a lower Specific Absorption Rate (SAR) and slower gradient slew rates.
- **HEAD ORIENTATION** (only applicable at 1.0T, 1.5T) ○ OK
  Inform the patient not to tilt their head to either side.
- **EXTERNAL COMPONENTS** ○ OK
  Remove audio processor and accessories before entering the scanner room.
- **HEAD BANDAGE** (only applicable at 1.0T, 1.5T) ○ OK
  Place a supportive headband over the implant.
  NOTE: The bandage may be an elastic bandage wrapped tightly around the head at least three times.

EXECUTION

NOTE: To reduce the likelihood and degree of patient discomfort, the patient should keep their head away from the scanner wall near the entrance of the scanner.

- **PATIENT POSITIONING** (only applicable at 1.0T, 1.5T) ○ OK
  The patient should be lying in the scanner in a supine, prone or side position with the head kept straight.
  NOTE: When lower extremities are to be examined, it is recommended that patient's legs are positioned in the scanner first to minimize any risk of weakening the implant magnet.
- **OPERATING MODE** ○ OK
  Run sequences in "Normal Operating Mode" only.
  NOTE: max. 3.2 W/kg for Head scans, 2.0 W/kg for Whole-Body scans

NOTE: In rare cases temporary pain or discomfort may occur in the implant area during MRI even if all protocols and bandaging instructions are followed.

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