

Screening Subjects for MRI Compatibility

Although MR research is safe for most volunteers, for certain subjects, MRI may pose unnecessary risk. Most contraindications that would rule out a subject involve metallic foreign bodies; however, there are several other concerns of which investigators should be aware. If any question exists regarding a subject's MR compatibility contact [Steven Shannon](#) or the subject **must not be scanned**.

Screening and Consent Forms

In addition to screening subjects thoroughly before scheduling them for MRI, everyone must fill out and sign all appropriate Consent and Screening Forms prior to entering the magnet.

In the rare case with a person accompanying the patient in the magnet room, the visitor must be screened using the visitor screening form prior to entering the room.

Conditions that Rule Out a Subject

- Cardiac pacemaker
- Surgical aneurysm clips
- Neurostimulator
- Implanted pumps
- Metal fragments in body / eyes
- Pregnancy
- Nitroglycerin patch (rule out if subject cannot remove patch; foil may heat up)
- Colored contact lenses should not be worn in scanner
- Certain cochlear implants *
- Weight > 440lbs (also consider shoulder and chest size)

*Check the list of magnet compatible and incompatible products at www.MRIsafety.com or published book by Shellock posted in the Console Room (46-1158) **and** check with Steven Shannon.

Conditions that Might Rule Out a Subject

- Ear implants (most are OK, certain cochlear implants are not*)
- Metal rods, plates or screws in body or mouth
- Injury to eyes involving metal (if in question do not scan subject)
- Previous surgery (if metal left in body)
- IUD (most are OK, except Copper-7 *)
- Hearing aid (should be removed before scanning)
- Dentures (should be removed before scanning)
- History of vestibular or inner ear abnormality such as Meniere's Disease
- Prosthetic heart valve (most are plastic now *)
- Breast feeding (rule out if using Gadolinium)
- Braces (causes severe frontal artifact; rule out for EPI)
- Hair extensions (most are connected with wire, causes severe artifact)
- Tattoos or permanent eyeliner (if ink contains metallic specks)
- Nicotine patches (those with foil backing)

Other Screening Considerations

- Claustrophobia
- Physical discomfort (body size, back or neck pain, etc.)
- Movement disorders (ticks, restless legs, etc., that may cause movement artifact)
- Vision / Hearing problems
- Problems using response devices

Things Not to Bring or Wear in the Scanner

- ANYTHING in your pockets
- Metal jewelry (face and body piercing items should be removed if possible)
- Watches
- Hair holders
- Eye glasses
- Metal on clothing (metal buttons, snaps or trimming, underwire bras, belt buckles)
- Eye shadow (many contain metallic specks that can heat up)
- Colored contact lenses (remind subject to bring a case to store contacts in during scanning)

For More Information

If you have any doubts whether a subject is magnet compatible, do not scan. Contact [Steven Shannon](#).

For additional MR safety information visit www.radiology.upmc.edu/MRsafety/

or

<http://www.MRIsafety.com>