

FACTS ABOUT THE SAFESCAN® TARGET SCANNER™

1. THE TARGET SCANNER 'SENSITIVITY ADVANTAGE'

- The Target Scanner has a *passive non-radiating* DC magnetic field which greatly increases **sensitivity-detectability**. (This is Patent-protected intellectual property-technology co-invented by Mednovus and Quantum Magnetics/GE Security).

- The use of this passive DC magnetic field greatly increases (by a factor of 10-15 times) the detectability of a ferromagnetic threat object – especially a non-premagnetized “ferromagnetically-hard” threat.

2. The passive DC magnetic field of the Target Scanner DOES NOT RADIATE or emit RF.

- Other examples of a passive DC non-radiating field emitting no RF are a refrigerator magnet, and the small magnet given out in meetings by Junk Architects.

- This field will NOT affect in any way MRI quality, nor will it erase credit cards or affect cell phones. It decreases rapidly from 100 G. at one inch to less than one G at one foot. For reference, a typical pacemaker magnet is approx. 160 G. at one inch, and the hand-held permanent magnets ('MRI Test Magnet') used by some MRI centers have a field even as high as 3,000 G (0.3 Tesla).

- The ACR Best-Practices mandate is to use physical screening, including ferromagnetic detection, *AFTER* you have medically cleared the patient that it is safe for that patient to enter the magnet room/Zone IV -- where the patient will be subject to fields of 15,000 – 30,000 (1.5 – 3.0 T).

After you have cleared the patient to enter the huge field of the MRI, this Patent-protected SAFESCAN® technology means increased safety for your patient.

Please see ADDENDUM for further discussion of the Physics and Rationale for using an independent non-radiating magnetic field to increase sensitivity-detectability.

***The SAFESCAN® TARGET SCANNER™ fully complies with
The Joint Commission, ACR, and VA MR Safety mandates***

Question:

Can the TARGET SCANNER be used for the head area? Such as alarming on Bobby Pins?

Answer: YES

-The only caution here is not to rub the TARGET SCANNER directly over the eye. The reason for this is that the small field of the TS (many times less than the 'MRI Test Magnet'), could, at least potentially, move a ferromagnetic object if deep within the eye. We have done experiments with human eye bank eyes demonstrating that this is extremely unlikely, because the Target Scanner's field is so small relative to the field required to move an intraocular particle.

- And it is very rare to have ferromagnetic material deep within the eye itself (intraocular), especially without serious ocular manifestations -- including severe inflammation and usually profound loss of vision.

Note: Corneal FM foreign bodies (i.e., embedded in the cornea but not intraocular) are common in certain professions, such as welding and shop work. Patients with corneal foreign bodies almost always have pain and excessive tearing - symptoms that there is something wrong with their eye. Patients exhibiting these ocular symptoms must first and without delay be referred to a competent ophthalmologist prior to MRI.

Question:

Can the TARGET SCANNER be used for the chest area?

Answer: YES

- We do not actively market the Target Scanner™ for internal threats. Incidentally, however, a number of pacemakers or defibrillators have been found in patients who absolutely denied having these devices.

- To maximize safety for your patient, screen the chest area AFTER you have asked the patient if they have a pacemaker or defibrillator. If the patient denies having one of these devices, you may certainly screen the chest area.

- The passive non-radiating DC magnetic field of the Target Scanner (100 G at one inch, diminishing to less than 1 G at 1 foot) is significantly less than that of a pacemaker DC magnet (approx. 160 G), and very much less than the DC permanent magnets sometimes used for

ferromagnetic threat location on patients ('MRI Test Magnet'= 2,500 – 3,000 G) – and many many times less than the DC field of the MR magnet itself (15,000 – 30,000 G.)

- Nevertheless, as a safety precaution, do not allow the Target Scanner to rest on the chest for prolonged periods of time. However, you may scan the chest area AFTER you have medically cleared your patient for MRI.

PACEMAKERS AND NEUROSTIMULATION DEVICES: As stated above, while we do not market the SAFESCAN® Target Scanner™ for finding pacemakers/neurostimulators and other objects within the body of the patient, the SAFESCAN® Target Scanner™ has incidentally found a number of pacemakers in patients who absolutely denied them; and, based upon this historical denial, were medically cleared to enter the huge field of the MRI machine (15,000 - 30,000 G).

*Because of the Target Scanner – **used as a second line of defense after the patient was medically cleared for MRI** – these patients were saved from the potentially ominous consequences of undergoing MRI. For such patients, the Target Scanner™ prevented a potential disaster.*

Question:

Is the field of the TARGET SCANNER 'strong'?

Answer: NO

- Please pardon repetition, but this is very important question to set the record straight, as a recent article erroneously stated that the Target Scanner has a 'strong field.' This is an incorrect statement:

- The SAFESCAN® Target Scanner™ employs a small permanent magnet (DC/passive/non-radiating/no RF) to enhance detection capability.

- The use of this field increases sensitivity-detectability 10-15 times vs. not using this field, and rather relying instead only on the Earth's field and any fringing field in the area.

1. The Target Scanner's field is approximately 100 G at one inch, decreasing to 1 G at 12 inches. This is NOT a 'strong' field.

2. The Target Scanner's field is many times smaller than the 'MRI Test Magnet' sometimes used for patient pre-screening. The MRI 'Test Magnet' can have a field as high as 2,500- 3,000 G.

3. What about the field of the MRI, for which the patient has been medically cleared?

- o For a duration of 6 seconds (Target Scanner™) vs. 30 minutes (MRI), the relative time differential is some 300 times (0.3%).*

Target Scanner: DC magnetic field: approx. 100 G @ 1"
Duration of test: 6 seconds or less per area

MRI: DC magnetic field: 15,000 - 30,000 G.
Duration typically: 20-35 minutes

Question:

How is the Target Scanner cleaned between uses?

Answer:

- The SAFESCAN® Target Scanner™ is classified as 'Reusable Medical Equipment,' and, as such, can be readily cleaned between uses with an alcohol wipe or sponge, or other standard medical disinfectant solution.

Question:

Does the Target Scanner require periodic maintenance?

Answer:

- The Target Scanner goes through a self-calibration cycle every time it is turned on.*
- **No preventative maintenance is required, but it is recommended to visually inspect the instrument before every use.***
- To make certain that the instrument is in proper working order, it should therefore be turned off after every use, thus allowing the self-testing to occur.*
- An excellent and always available test object is the MR Technologist's watch dial (almost invariably ferromagnetic). The watch dial should elicit an alarm response.*
- If any material, such as a paperclip, is attached to the Target Scanner's elevated red area (the scanning area), the self-testing will show that the instrument is NOT ready for clinical scanning.*

THE SAFETY OF YOUR PATIENTS IS OUR TOP PRIORITY

The American College of Radiology (ACR), The Joint Commission (TJC), the Veterans Administration (VA), and many state legislatures mandate ferromagnetic detection for MR Safety.

We will focus our people, energies, and skills on providing superior ferromagnetic detection systems for your unique needs - and providing the first-class customer service you deserve.

ADDENDUM

Physics and the rationale for using an independent magnetic field to increase sensitivity-detectability.

- As stated above, the use of a passive non-radiating DC magnetic field **increases sensitivity-detectability 10-15 times** vs. not using this field, and rather relying instead only on the Earth's field and any available fringing field in the area.

- After you have cleared the patient for MRI to enter the huge field of the MRI, this Patent-protected SAFESCAN® technology means increased safety for your MRI patient.

Discussion

- The ambient field consists of the Earth's field of 0.5 G, and any available fringing field from the MRI magnet itself. With modern shielded magnets, this fringing field outside the magnet room/Zone IV, is small, and even at the magnet room door, such as only 0.75 – 1.25 G. And this fringing field drops off very fast – to where it is virtually nil at 20 feet. So, *at best*, the field available to magnetize a ferromagnetic object is 0.5 G (Earth's field) + 1.25 G (fringing field when next to magnet room door) = 1.75 G.

- Note: when ferromagnetic detection is performed with a handheld FMD instrument which uses ONLY ambient field for detection, at even a short distance from the magnet room door (and especially at distant sites (such as the ICU, the ER, etc.), the Earth's magnetic field of 0.5 G is the ONLY field present to magnetize a ferromagnetic threat object.
- In this instance, non-detection is more likely to occur. This is because the Earth's field is often insufficient for the detection of many smaller ferromagnetic threat objects (and especially for ferromagnetically 'hard' objects).
- The physics of ferromagnetic detection is working against such an instrument. Based upon our research experience, we believe that such an instrument is a less reliable protection tool for your MRI patients.
- **When a ferromagnetic threat is missed, the undetected ferromagnetic threat object goes into the magnet room. A major accident can now happen.**
- Is any instrument perfect? NO, but that stated, we strongly believe that the Target Scanner is the very best handheld ferromagnetic detection instrument available in the marketplace (and also the most affordable).

- **And NO instrument is a substitute for a conscientious and caring MR Technologist – This is the patient’s most important line of defense.**

MEDNOVUS COMMITMENT TO OUR CUSTOMERS

- We are driven to be the best in the industry without compromise. We will deliver a superior product which matches the expectations and needs of our customers – and provide the first-class customer service they deserve.

- Please call me (or email if better for you) any time 7 days a week if you have any questions or recommendations. We are a listening company, and we highly value your input!

Thank you!

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Government Support Program

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The SAFESCAN® Target Scanner™ conforms to MRI ferromagnetic detection safety documents and mandated requirements from The Joint Commission (TJC), American College of Radiology, the VA Healthcare System, and many State Licensure Regulations.