stryker®

Trauma

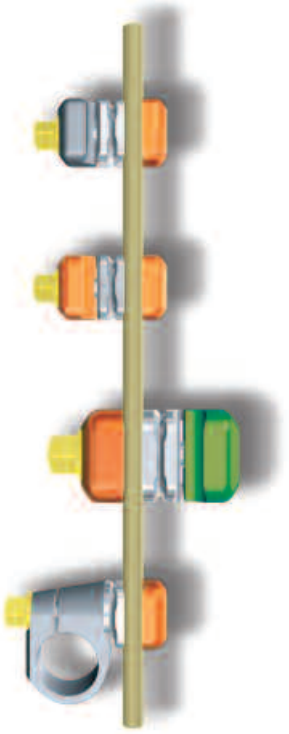
Hoffmann® II Compact™ MRI

Raising the Bar Once Again

Hoffmann® II
Compact™ MRI

Stryker continues its long history of innovation in external fixation by introducing a completely new system specifically designed to allow use in the MRI environment:

Hoffmann® II Compact™ MRI External Fixation System has been designed in compliance with ASTM Standard F2503-05 and may be used in MRI environments up to 3.0 Tesla. The entire system was **designed from the ground up for safety when placed in the MRI environment**. The unique **systemic approach** of this design focuses in on the two key areas of concern in MRI use: frame displacement due to magnetic (mechanical) forces, and frame heating due to induced electrical currents (thermal forces):

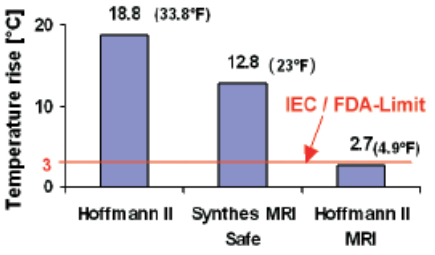


Addressing the Mechanical issues

Non-ferromagnetic materials are used to construct all the metallic components:

- Clamps and couplings are made from a combination of **aluminum and austenitic steel**[2]
- Posts and Apex® Half Pins are made from austenitic stainless steel

Since these components are **non-magnetic**, the magnetic fields in the MRI environment will not cause the frame displacement that can pose a risk to the patient or scanner



Temperature increase of standard box frames in the Hoffmann® II MRI System[3]

Addressing the Thermal issue:

Carbon Fiber rods are coated with Vectran™, which is:

- Electrically insulating
- Radiolucent
- Light weight
- Yellow color with easy to read size etchings

Whole frame testing indicates these rods insulate against the induced electrical currents in the MRI and **significantly reduce half pin heating.**[3]

Of course the established performance of the original Hoffmann® II Compact™ has been retained in the **Hoffmann® II Compact™ MRI External Fixation System:**

- **Patented Snap-fit connections** allow rapid frame construction. Also, additional clamps may be added at any time.
- **Single point of tightening** for rapid and easy frame construction.
- **Independent, multiplanar pin placement** allows flexibility in pin placement and very stable frame construction.
- **Small, lightweight clamps** for lower profile frames, better visualization and access to the fracture site, as well as increased patient comfort.
- **Color coded components** for easy identification.
- **Full System Compatibility** for quick bridging to the larger Hoffmann® II MRI system.

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[1] The first Hoffmann frame was introduced by Dr. Raoul Hoffmann in1938. Asche, Roth, Schroeder. The External Fixator; Standard indications, operating instructions and examples of frame configurations. Einhorn-Presse Verlag 2002

[2] Austenitic stainless steels are non-magnetic, non heat-treatable steels that are usually annealed and cold worked

[3] John Nyenhuis, PhD; Professor of Electrical and Computer Engineering, Purdue University. Magnetic Resonance Imaging Testing of External Fixation Frames: Stryker® Hoffmann® II MRI vs. Synthes® MRI Safe. Stryker White Paper 2005 Lit Number LSA55

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