## **Aneurysm clip**

## Cobalt-chromium alloy aneurysm clip

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## **Aneurysm clips and MRI**

MRI concerns in patients with a cerebral aneurysm clip:

- 1. the danger of the MRI magnetic field causing the aneurysm clip to be pulled or torqued off of the aneurysm or to tear the neck
- 2. the artifact produced by the metal of the clip in the magnetic field
- 3. heat generated in the region of the clip: not clinically significant

The more ferromagnetic the clip, the larger the force exerted on it by the magnetic field and the greater the image distortion near the clip.

Stainless steel (SS) is classified as martensitic (ferromagnetic) or austenitic (non-ferromagnetic).

Cobalt-based superalloys are non-ferromagnetic and include Elgiloy (Sugita aneurysm clips), Phynox (Yasargil) and Vari-Angle (McFadden). Essentially all modern aneurysm clips are MRI compatible, but patients clipped before the 1990s may have ferromagnetic clips.

If in doubt at the time of aneurysm surgery, apply the following simple test: non- ferromagnetic clips cannot be lifted or dragged with a small magnet.

## Yasargil aneurysm clips

see Yasarqil aneurysm clips.

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