

Dedicated imaging for neurosurgery

Similar to cardiovascular surgery, neurosurgery comprises a variety of new techniques and procedures with very specific imaging requirements. The following overview is designed to provide assistance in selecting the most suitable imaging modality.

Aneurysm clipping and coiling

If coiling of aneurysms is performed, a **fixed**, preferably a **biplane C-arm** system, is recommended. Clipping of aneurysms can also be done with a **mobile C-arm**.



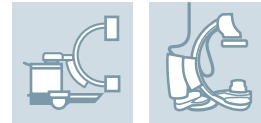
Stereotactic surgery

Fluoroscopic guidance for frameless stereotactic procedures is supported by both **mobile** and **fixed C-arm** systems with integrated 3D capabilities. Advanced imaging with live overlay of 3D structures is provided only by **fixed C-arm** systems.



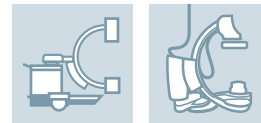
Spine surgery

Main applications in spine surgery include fusion of vertebrae, kyphoplasty and vertebroplasty. **C-arms** with high resolution and penetration are essential to monitor correct positioning of screws, instruments, implants and injected cement. Optional 3D imaging with navigation may enhance treatment precision and enable intraoperative evaluation of the surgical procedure.



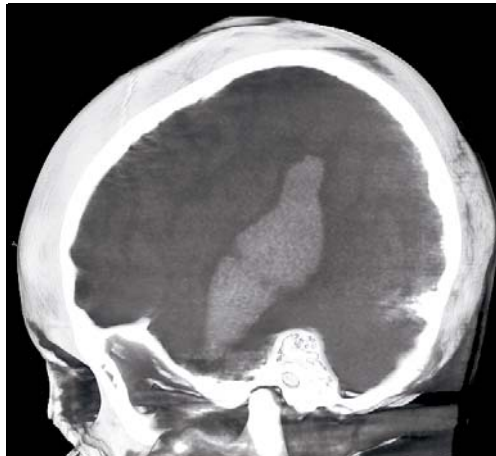
Pain management

Interventional procedures typically used for chronic back pain such as epidural steroid injections, facet joint injections and neurolytic blocks are controlled under successive fluoroscopy. Great flexibility of projections along with easy self-controlled handling are essential system features.





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Arteriovenous malformation surgery

Surgery for AV malformations with coiling of the arterial supply requires a **fixed C-arm** system. A **biplane C-arm** system is recommended for these complex procedures.



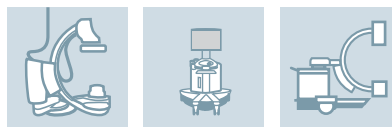
Carotid artery stenting

The carotid artery and peripheral vessels are ideally evaluated with **Doppler ultrasound** and a **mobile C-arm**. A **fixed C-arm** system can provide additional information, for example, perfusion and vessel quantification.



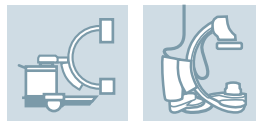
Tumor surgery

Integrating MR functional imaging and combining it with navigation in the OR is a state-of-the-art solution for brain tumor surgery. Combining MR imaging with a **fixed C-arm** may take you to the next level.



Shunt surgery

To evaluate the correct placement of the shunt in a central vein, a **mobile C-arm** is sufficient. However, to locate the shunt within the lateral ventricle, 3D imaging with soft tissue contrast, in other words a **fixed C-arm**, is necessary.



System icon overview

The system icons appear from left to right in order of the Siemens system recommendation for the respective application.



Mobile C-arm system



Fixed C-arm system



Ultrasound system