

: 1. **Functional MRI (fMRI):** One of the most significant advantages of MRI is its ability to perform functional imaging, known as fMRI. This capability enables comprehensive evaluation of brain anatomy from various perspectives, enhancing the detection of abnormalities and improving surgical planning. **Multi-Planar Imaging:** MRI allows for imaging in multiple planes (sagittal, coronal, and axial) without repositioning the patient. Neurosurgeons rely on MRI's multi-planar images to precisely locate and navigate around critical structures during procedures. 2.3.