

Cranial Vascular Imaging Scan Recommendations

Image Fusion Angio Ver. 1.x

Scan Recommendations

2D DSA images and 3D vascular images need to be provided.

Requirement	Recommendation
Field of View (FOV)	Include the complete head (to avoid aliasing artifacts)
Patient Setup	All positions, motionless
Scanning Properties: 3D Imaging	<p>MR:</p> <ul style="list-style-type: none"> • Contrast enhanced vascular scanning protocols (e.g., TOF, T1 with contrast agent. Fat suppression imaging is recommended.) <p>3D rotational angiography data:</p> <ul style="list-style-type: none"> • 3D digital subtraction angiography (DSA) • Reconstructed slices (CT-like modality) <p>CT:</p> <ul style="list-style-type: none"> • Contrast-enhanced vascular scanning protocols (CTA) <p>In general:</p> <ul style="list-style-type: none"> • Minimum number of slices: 50 • Maximum pixel size: 0.7 mm x 0.7 mm • Recommended slice thickness 1.5 mm or less • Only square pixels are allowed • Good image quality (i.e., high resolution, high contrast, minimal artifacts)
Scanning Properties: 2D Imaging	<p>Frontal and lateral projective DSA imaging:</p> <ul style="list-style-type: none"> • Digital subtraction angiography (DSA) required • Minimum number of frames per orientation: 6 • Scanning type: STATIC • Oblique angulation can be used, however a pair of projections shall be orthogonal ($90^\circ \pm 10^\circ$) • Bi-planar scans can only be supported if saved separately in frontal and lateral direction
Matrix Size	Any matrix size, but must be squared and the same for the 2D-DSA images
Storage	16-bit DICOM format only
Additional Recommendations	Ensure that the scanning properties are maintained in the DICOM headers as these are utilized for image analysis.

NOTE: *Image Fusion Angio* provides a 2D/3D coregistration functionality based on vessel structures. As such, vessels visible in 2D-DSA images should also be visible in the 3D images.

