

# Scan Protocol - Cranial Planning MRI

## How to Scan Cranial MRI Data for Adaptive Hybrid Surgery Analysis

Software: Adaptive Hybrid Surgery Analysis 1.x and higher

<b>FOV (Field of View) / Scan Range</b>	<ul style="list-style-type: none"> <li>• Range from top of the head downwards to include all critical regions</li> <li>• Include region of interest</li> <li>• FoV must remain the same during the scan</li> <li>• Do not include the table or headrest in the field of view</li> <li>• If the data set shall be used for navigation, make sure to include all fiducial markers/landmarks required for registration</li> <li>• Surface matching: include the face containing forehead, eyes and the complete nose (<b>including tip!</b>)</li> <li>• No restraints across face or ears (across chin is acceptable)</li> </ul>
<b>Scan Properties</b>	<ul style="list-style-type: none"> <li>• Axial only</li> <li>• T1, T2, angiographic possible</li> <li>• 3D SPGR T1, 3DT2w CISS</li> <li>• Scan patient with eyes closed</li> <li>• Sequential scans 1-2 mm (1 mm recommended)</li> <li>• Square pixel only</li> <li>• Pixel size, matrix size, and table height must remain the same during the scan</li> <li>• Surface matching: The skin surface must be displayed evenly, well contrasted and with low distortion</li> <li>• Use distortion filter if available</li> </ul>
<b>Gantry Tilt / Angulation</b>	<ul style="list-style-type: none"> <li>• Reference (AHSA planning) MR: no angulations, axial only</li> <li>• Additional MRs: Positive and negative values are allowed, but must remain the same during scanning</li> </ul>
<b>Patient Orientation</b>	<ul style="list-style-type: none"> <li>• Strict supine position (no head rotation)</li> </ul>
<b>Matrix Size</b>	<p>Any, but squared recommended, e.g.:</p> <ul style="list-style-type: none"> <li>• 256 x 256</li> <li>• 512 x 512</li> </ul>
<b>Special</b>	<p>3D MR, Angio MR allowed</p>

If you need additional information, please contact your local Brainlab support.