

## Scan Protocol - Spine

How to Scan Spine Data for the Brainlab RT Elements:

- Spine SRS 1.0 and higher

<b>FOV (Field of View) / Scan Range</b>	<p><b>All scans</b></p> <ul style="list-style-type: none"> <li>• <b>Recommended: Restrict scan range (total table movement) to necessary length</b></li> </ul> <p><b>CT</b></p> <ul style="list-style-type: none"> <li>• For the <b>reference CT</b>: Make sure to include all body markers and the outer contour</li> <li>• Range to <b>include all critical regions</b></li> <li>• Table top must be included</li> <li>• For <b>automatic segmentation</b>: The scan length should cover at least 4 vertebrae</li> </ul> <p><b>All Other Scans (additional MRI...)</b></p> <ul style="list-style-type: none"> <li>• No restrictions except must include the outer contour</li> </ul>
<b>Slice Distance</b>	<ul style="list-style-type: none"> <li>• <b>Sequential</b> or <b>Spiral/Helical</b> scans are allowed</li> <li>• <b>Max. 3 mm slice distance</b>, complete scan. <b>Recommended: 1 mm scans</b></li> </ul>
<b>Number of CT Slices</b>	<ul style="list-style-type: none"> <li>• Maximum 399 slices for positioning with <b>ExacTrac</b></li> </ul>
<b>Scan Properties</b>	<p><b>CT</b></p> <ul style="list-style-type: none"> <li>• Axial only</li> <li>• Scan for soft tissue windowing (with kernel of about 40)</li> </ul> <p><b>MRI</b></p> <ul style="list-style-type: none"> <li>• Axial, sagittal, coronal</li> <li>• T1, T2</li> <li>• Contrast agent allowed</li> </ul>
<b>Gantry Tilt / Angulation</b>	<p><b>CT</b></p> <ul style="list-style-type: none"> <li>• <b>Oblique slices</b> are not supported</li> </ul> <p><b>All other scans (additional MRI...)</b></p> <ul style="list-style-type: none"> <li>• Any kind of gantry angle can be used</li> <li>• Positive and negative values are allowed, but must <b>remain the same</b> during scanning</li> </ul>
<b>Patient Setup</b>	<ul style="list-style-type: none"> <li>• <b>Strict supine</b> position, head first position only</li> </ul>
<b>Scan Direction</b>	<ul style="list-style-type: none"> <li>• Cranial to caudal or caudal to cranial</li> </ul>
<b>Image / Pixel Size</b>	<ul style="list-style-type: none"> <li>• Must remain the <b>same</b> during the scan</li> <li>• Only <b>squared</b> pixels are supported</li> </ul>
<b>Table Height</b>	<ul style="list-style-type: none"> <li>• Must remain the <b>same</b> during the scan</li> </ul>
<b>Image Compression</b>	<ul style="list-style-type: none"> <li>• Save images in uncompressed format</li> </ul>
<b>Matrix Size</b>	<p><b>Squared recommended, e.g.:</b></p> <ul style="list-style-type: none"> <li>• 512 x 512</li> <li>• 1024 x 1024</li> </ul>

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

