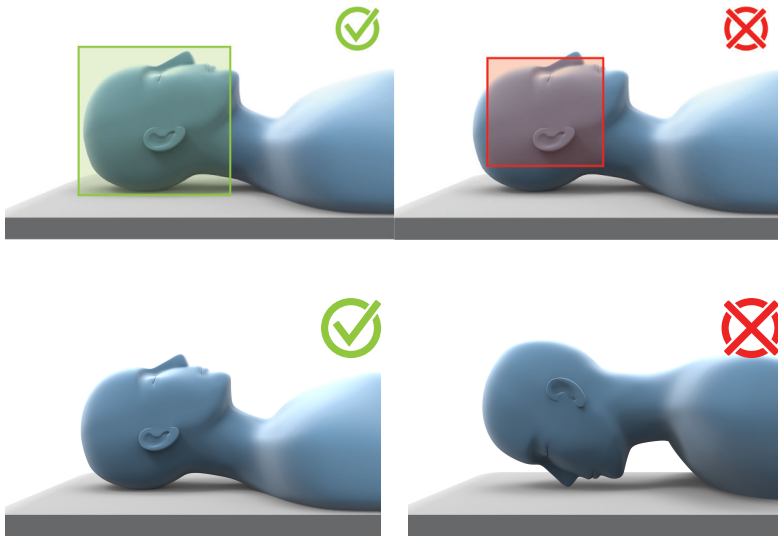


DTI Scan Recommendations

Fibertracking Ver. 2.0



Field of View

- Include the complete head to avoid aliasing artifacts.
- Acquire a minimum of 35 slices without gaps in between.

Patient Setup

- Supine and head first only.

Scanning Properties

- Axial only
- Recommended slice thickness: 3 mm or less
- Only square pixels are allowed.

DTI-Specific Parameters

- DTI scan sequence
- Diffusion directions and B0:
 - Recommended: 20 or more and one corresponding B0
 - Required: Minimum of 6 or more and one corresponding B0
 - Must have the same scan properties (number of slices, FOV, pixel and matrix size)
 - Must belong to the same study and series
- Repetitions are optional (all directions must have the same repetitions).
- Varying b-values during acquisition are not supported. One acquisition per b-value.

You must provide high-resolution anatomical MR data in addition to the DTI data. The anatomical data may be acquired in the same study as the DTI data (or must be acquired within 12 hours of the DTI study).

Matrix Size

- Any matrix size, but must be squared

The matrix size should represent a trade-off between image resolution and geometric distortions. The matrix size correlates to the amount of geometric distortions occurring in AP direction.

Angulation

- Optional

Extreme angulation causes a color shift of the fiber tracts. The amount of shift correlates to the amount of angulation.

Additional Recommendations

- Isotropic voxels are recommended (e.g., 2.0 x 2.0 x 2.0 mm³).
- A b-value of approx 1000 s/mm² is recommended for optimal imaging of normal white matter.

Storage

- 16 bit DICOM format only.
- Store as single or enhanced MR images.

Be aware that manipulating (e.g., anonymizing) patient data could remove important DTI-related acquisition parameters.

DICOM Conformance

DTI data from any scanner manufacturer can be supported if the provided DICOM files are according to the DICOM standard, revision 2016b, published by NEMA – C.8.13.5.9 MR Diffusion Macro.

DICOM conformance statements can be found on the Brainlab website at: www.brainlab.com/dicom.



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Document Revision: 1.1

Article Number: 60918-15EN

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