TOSHIBA
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MSSW-DTI/S1

Product Data
No. MPDMR0247EA

DTI PACKAGE

APPLICATIONS

The DTI package is an optional package for the Toshiba magnetic resonance imaging (MRI) system. This package provides new pulse sequences for DTI and new functions for imaging and post-processing in order to expand the range of clinical applications.

- DTI (Diffusion Tensor Imaging) technique:
  This imaging technique visualizes diffusion anisotropy. Based on the acquired images, images representing the amount of diffusion in each direction, the degree of anisotropy, and the sum of diffusion factors can be calculated.
- Body Vision:
  This package provides a complete set of sequences for performing diffusion-weighted imaging in various regions of the body, including the chest, abdomen, and pelvis as well as the lower extremities. Body Vision employs b values that are specifically intended for areas outside the brain.

COMPOSITION

Software (License)..... 1 set

This package does not include an operation manual. Refer to the operation manual supplied with the MRI system.

APPLICABLE COMBINATIONS

This package is applicable to the following systems.

- Vantage Titan™ 3T

* In order to use this package, the optional EPI package (model MSSW-EPI/S1) must be installed in the MRI system.

PERFORMANCE SPECIFICATIONS

This package provides the following functions.

Diffusion Tensor Imaging

At least seven sets of diffusion-weighted images, one acquired without an MPG pulse and at least six acquired with MPG pulses applied isotropically in different directions, are acquired. Based on these acquired images, the diffusion tensor is assumed to be an ellipsoid (diffusion ellipsoid) and is defined by a symmetric 3 × 3 matrix. The characteristic values $\lambda 1$, $\lambda 2$, and $\lambda 3$ of the diffusion tensor ($\lambda 1 > \lambda 2 > \lambda 3$) are calculated by performing matrix diagonalization for each pixel.

- Pulse sequences
  The following pulse sequences are supported for DTI.
- Post-Processing for Diffusion Tensor
  – FA (fractional anisotropy) image
  The diffusion FA image shows the degree of diffusion anisotropy. This image can be generated automatically after image acquisition.
  – $\lambda 1$, $\lambda 2$, $\lambda 3$ images (characteristic value images)
  These images are generated by converting the characteristic values obtained from the diffusion tensor into an image.

POWER AND ENVIRONMENTAL REQUIREMENTS

The power and environmental conditions are the same as for the MRI system.

COMPLIANCE WITH STANDARDS

This package complies with the same standards as the MRI system.

MASS

Unit	Mass (kg)
DTI package	Approx. 0.5

TOSHIBA MEDICAL SYSTEMS CORPORATION

http://www.toshibamedicalsystems.com

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Made for Life™

Toshiba Medical Systems Corporation meets internationally recognized standards for Quality Management System ISO 9001, ISO 13485.

Toshiba Medical Systems Corporation Nasu Operations meets the Environmental Management System standard, ISO 14001.

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