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MSSW-PERF/S1

Perfusion PACKAGE

for Vantage Titan™ 3T

Product Data
No. MPDMR0260EA

APPLICATION

The Perfusion package is an optional package for the Toshiba magnetic resonance imaging (MRI) system Vantage Titan 3T, and intended as an upgrade to the MRI system software. This package enables perfusion processing to be performed for dynamic image data acquired by the Toshiba MRI system, expanding the range of clinical applications of the MRI system.

Applicable region: Head

COMPOSITION

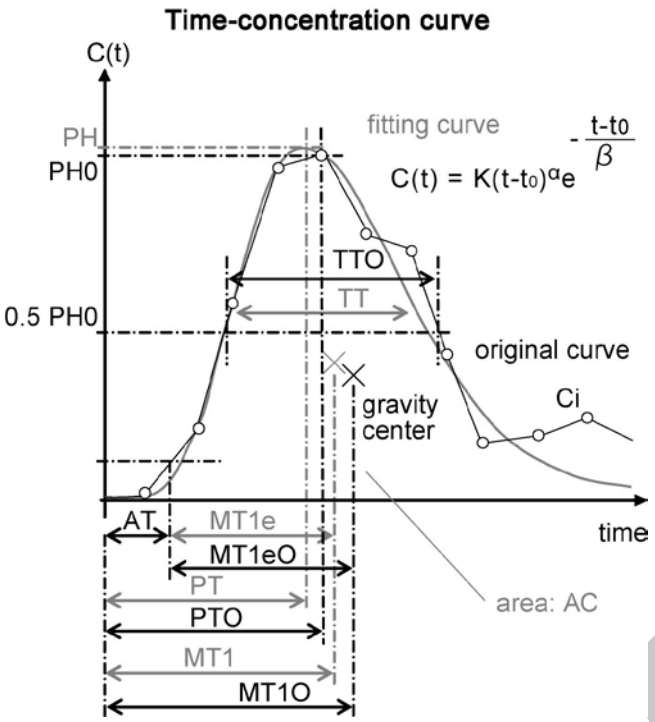
• Software ..... 1 set

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

PERFORMANCE SPECIFICATIONS

- Dynamic scan is performed using FE EPI pulse sequences that enhance the susceptibility contrast, and hemodynamics (perfusion) is parameter-converted for each pixel based on the time-series image data and displayed as images.
- The original time-series image data containing susceptibility contrast is converted to values representing the contrast medium concentrations, enabling qualitative observation of change of the hemodynamics over time in the left and right hemispheres.
- By setting two or more ROIs on a susceptibility contrast image (ΔR2* image), a time intensity curve (TIC) is generated and the parameters that represent temporal characteristics (such as peak time of TIC, area under curve, primary moment, slope of curve rising edge and falling edge) are displayed as values or map, allowing comparison between left and right hemispheres.
  The TIC function can calculate the following parameters.

Parameter	Description
AT	Appearance time : Time at which the contrast medium appears on the image that is obtained from the original curve (s)
AC0	Area under curve of the original curve (1/s·s)
PH0	Peak height : Peak height of the original curve (cu) = (1/s)
PT0	Peak time : Peak time of the original curve (s)
TT0	Peak width at half height obtained from the original curve (s)
MT10	Time of the center of gravity of the original curve (s)
MT1e0	Time from AT to the center of gravity of the original curve (s)
AC	Area under curve of the fitting curve (1/s·s)
PH	Peak height of the fitting curve (1/s)
PT	Peak time of the fitting curve (s)
TT	Transit time : Time between the point at which the gradient of the fitting curve is the maximum in the rising direction and the point at which the gradient of the fitting curve is the maximum in the falling direction (s)
MT1	Time of the center of gravity of the fitting curve (s)
MT1e	Time from AT to the center of gravity of the fitting curve (s)
US	Time at which the gradient of the fitting curve is the maximum (s)
Error	Fitting error
CBF	Regional cerebral blood flow obtained from the peak height of the impulse response (mL/100 g/min)
CBV	Regional cerebral blood volume obtained from the area under curve (mL/100 g)
MTT	Mean transit time obtained from CBV and CBF (s)
CBF2	Regional cerebral blood flow obtained from CBV and MTT2 (mL/100 g/min)
CBV2	Regional cerebral blood volume obtained from the area of the impulse response (mL/100 g)
MTT2	Mean transit time obtained from the width of the impulse response (s)
Tmax	Peak time of the impulse response (s)



MASS

Unit	Mass (kg)
Perfusion package	Approx. 0.5

TOSHIBA MEDICAL SYSTEMS CORPORATION

http://www.toshibamedicalsystems.com

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Produced in Japan