

Medviso Segment CMR 3.2 Product specification sheet

Viewing

- Up to 6 panel views and orthogonal display
- Automatic and manual contrast and brightness adjustment; image zooming and panning
- Automatic and manual image stack cropping
- Spatial and temporal resolution image resampling
- Cine mode with synchronized cine loops
- Drag and drop functionality
- Hide/show overlays and cross-reference lines

LV/RV Analysis

- Automatic LV/RV segmentation in short axis
- “SmartExpand” tool for LV/RV Endocardial contouring
- Intuitive semi-automatic and manual tools for contour drawing
- Automatic detection and volume calculation of papillaries
- Importing of segmentation from other stacks
- Shortcut- button for LV/RV stack for faster toggling between image stacks
- Measurements: Ejection fraction, end-systolic and end-diastolic volume, myocardial mass, cardiac output, stroke volume
- Export functionality for movies, images and values to file and spreadsheet

LV/RV Strain Analysis

- Feature tracking in cine images and Tagging analysis in tagged images
- Applicable in both short-axis and long-axis images
- Input to Strain module: LV and/or RV segmentation in one diastolic time frame in selected slices
- Strain over time and peak strain, strain rate, rotation, torsion and dyssynchrony
- Measurements: Radial, circumferential and longitudinal strain reported globally and sector wise
- Export functionality for movies, images and values to file and spreadsheet

Flow and ROI analysis

- Automatic vessel tracking and Flow quantification
- Qp/Qs, shunt, valve and Pulse wave velocity (PWV) analysis, Regurgitant fraction analysis
- Phase unwrapping and Eddy-current compensation (Linear, Quadratic and Phantom compensation)
- Semi-automatic and manual tools for ROI drawing
- Flow measurements: total flow, positive flow, negative flow, signed kinetic energy, mean velocity, maximal and minimal velocity, area
- Flow plots: flow, positive/negative flow, velocity, min and max velocity, area, diameter, 3D velocity profile.
- ROI analysis – up to 10 ROIs, setting ROI color and labels
- Shortcut- button for Flow stack for faster toggling between image stacks
- Export functionality for movies, images and values to file and spreadsheet

Viability Analysis

- Fully automated segmentation of infarct tissue quantification (Scar) and area at risk (MaR)
- Partial volume effect compensation
- Semi-automatic and manual tools for Scar and MaR delineation and adjustment
- Transmurality represented as bullseye plot
- Importing of LV segmentation from cine to viability stack
- Shortcut- button for viability stack for faster toggling between image stacks
- Export functionality for movies, images and values to file and spreadsheet

T1/T2/T2* and ECV analysis

- T1 /T2/T2* quantification for commonly used MRI sequences and multiple signal models
- T2* quantification with uncertainty estimates for robust quantification of iron load in the heart and liver
- Automatic ECV analysis from T1 maps with automatic alignment
- Pixelwise map and pixelwise residual- error map
- Importing of segmentation from other stacks
- Quantification of T1/T2/T2* values both pixelwise and mean values
- Export functionality for movies, images and values to file and spreadsheet

Perfusion analysis

- Automatic upslope quantification for both rest and stress image stacks with motion correction
- Quick manual scoring method with automatic alignment and no need for contouring
- Semi-automatic and manual tools for contouring
- Shortcut-button to Perfusion stack for faster toggling between image stacks
- Export functionality for movies, images and values to file and spreadsheet

Semi-automatic and manual tools for LV/RV drawing

- “SmartExpand” tool for LV/RV Endocardial contouring
- Pen for manual LV/RV contouring
- Setting interpolation points for LV/RV contouring
- Contour smoothing
- Propagation of LV/RV contours forward in time
- Copy and refinement of LV/RV contours upwards and downwards in slices
- Expanding and contracting LV contours
- Interpolate segmentation over slices and over time
- Translation and scaling contours

Semi-automatic and manual tools for ROI drawing

- “SmartExpand” tool for semi-automatic vessel contours drawing
- ROI pen for manual ROI drawing
- Circular ROI placing
- Contour smoothing
- ROI refinement
- Adding ROIs to sector of LV wall in selected slices
- ROI propagation to next timeframe
- Expanding and contracting ROI

General tools and plots

- Signal intensity analysis
- Place measurements and annotation points
- 2D and 3D plots
- Bullseye analysis of Wallthickness, Scar, GreyZone, MaR and Strain presented in 17 segment model

Loading, storing possibilities and report function

- Integrated patient database and PACS connection (query and retrieve, sending results to PACS)
- Add comments to studies in the patient database
- Plugin to Sectra PACS
- Advanced DICOM reader
- Synchronization between two patient database
- Importing data from PACS, network and local storage media (hard disk, USB, and CD/DVD)
- Storing data in database, disc and PACS
- Advanced clinical report, adding comments, optional quantification results, reference values, images and screenshots. Saving in XML format, sending to PACS

Regulatory Status

- CE marking of conformity and certified according to the ISO 13485 standard
- FDA 510(k) certified with device number K163076