ROBOTOC2MD

Digital Transcranial Doppler (TCD) Ultrasound System
with Robotic Headband for auto-tracking offers the best solution for Long-term monitoring. The ROBOTOC2MD locks on to the signal and maintains it despite patient or headband movement. Essential and Unique feature for monitoring.

ROBOTIC HEADBAND

Full Digital Doppler Technology

Sensitive Doppler
Advanced digital technology with improved detection sensitivity. The system can detect and obtain vessel signals quickly with high quality spectra even working at very low power and small sample volume (≤2mm), which also improves the accuracy for vessel localization, reliability for vessel identification especially working in the Multi-depth mode.

Higher Velocity Limit
The maximum detectable velocity is up to 750cm/s for the MCA. This eliminates the anti aliasing problem present in most TCD units and improves the accuracy for measuring high velocity for vasospasm patients.

**Exclusive Dynamic M-Mode (128 Depths, 750 gates)**

As a full digital TCD, the ROBOTOC2MD system produces a powerful, high resolution (128 depths combined into 750 small gates) M-Mode display, with Doppler signals simultaneously displayed along the ultrasound beam at varying depths. Up to 8 spectra at various depths can be simultaneously displayed with the M-Mode display.

Real-time recording of examinations can be fully stored as raw data and replayed – spectrum (including multi-depth spectrums) + sound + M-Mode + related events (including HITS events).

**Enhanced Dynamic M-Mode** for all the probes and the study types allows reviewing spectra and re-calculating indices offline for all depths of the M-Mode window. This review function is generally not available on other TCD machines. The Doppler raw data can be saved as an AVI media file which can be easily transported and used on any PC.
“Real” two channels with Professional Monitoring Program:
The ROBOTOC2MD is a real 2-channel device; all the control parameters including Depth, Gain, Gate, AMPL and Scale can be adjusted independently.
Up to 8 analog input signals can be added and analyzed synchronously with the TCD indices in monitoring for TCD diagnostics, intra-operative (e.g. carotid surgery and cardio surgery) and intensive care use. It has CO2 reactivity and VMR testing for the determination of vasomotor reactivity and reserve of cerebral blood circulation to changes in arterial pCO2.
2 CHANNEL MONITORING WITH MMODE, CO2 RESERVE AND VASOMOTOR REACTIVITY
Innovative Robotic Probe Technology
With the ROBOTIC PROBE technology the ROBOTOC2MD Transcranial Doppler, provides a comfortable fixation headband with auto tracking and restoration of the Doppler signal caused by probe, headband or patient movement. Cerebral vessels can be tracked for hours automatically without loss of signal. If the patient, headband or transducer moves from the TCD window the ROBOTOC2MD will automatically adjust for the movement and restore the TCD signal.

ROBOTIC PROBE TRACKING MAINTAINS TCD SIGNAL DESPITE PATIENT OR HEADBAND MOVEMENT. BOTTOM TRACE IS LONG TERM TRENDING AND MONITORING

Advanced Emboli Detection software
Based on the cooperation with many neurologists working on emboli research, the new emboli detection software has an improved algorithm with high accuracy, and it’s features include a soundtrack and a HITS history
EMBOLI DETECTION AND HITS RECORDING AS WELL AS ANALOG ANALYSIS OF THE HIT

User-friendly System
The ROBOTOC2MD has a configurable GUI (General User Interface), for all examination protocols and procedures. Settings can be predefined according to user's needs. This insures easy operation, printing of custom patient reports and storage and retrieval of data.

Advanced and Unique Features

- Wide-band frequency probe enables quick location of vessels and allows a higher velocity range.
- Water-proof Remote Control with configurable keys allows user to define their functions.
- Touch screen operation for ease of use (option)
- Multi-database supported for backup, restore and search.
- PDF Polling enables user to generate PDF reports automatically based on user-defined rules in the report setup.
  - Vasospasm plotting
  - DICOM with worklist (option)
  - Statistics package for clinical research
  - Customized patient reports
Vasospasm plotting, 7 days trend for a vasospasm patient.

Powerful statistics function, provides convenient data reduction for clinical research.
Statistics:

- **N = 25**
- Regression Line Function: $y = -0.026x + 3.005$
- Regression Coefficient: $r = -0.87$
- Mean($X$): 59  
  Mean($Y$): 1.44
- SD($X$): 23.63  
  SD($Y$): 0.72

Vessel (LMCA)

Statistics:

- **Age**

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