MiraQ Vascular
Intraoperative Surgical Guidance and Quality Assessment

Immediate Feedback
Improve surgical outcomes, demonstrate quality, and increase cost efficiency.

The Medistim MiraQ™ Vascular combines ultrasound imaging and transit time flow measurement (TTFM) in a single system that is specifically designed to meet the needs of vascular surgery.

Performing perioperative quality assessment using Medistim technology can greatly increase the patients' probability of a positive outcome and lessen the chance of additional and unnecessary surgical reinterventions.

The MiraQ™ Vascular System provides objective, quantifiable feedback on how well a graft is functioning during an operation. Surgeons can leave the operating room with the assurance that the construct is functioning well. All surgical findings can be documented through the flow tracings and images provided by the Medistim system.

Combining imaging and flow for better surgical guidance and quality assessment

Medistim’s L15 High-frequency ultrasound imaging probe provides high-resolution images that allows the surgeon to assess morphology. Medistim’s flow probes utilize transit time technology to accurately measure blood volume flow intraoperatively.

Combining the spatial information from ultrasound imaging and quantitative data from TTFM enables the surgeon to make informed decisions, and revise grafts when necessary.

Carotid Endarterectomy (CEA)
The MiraQ™ Vascular System offers the unique combination of high frequency ultrasound imaging guidance and flow measurement (TTFM). Documented to reduce risk of death and stroke and improve cost effectiveness. ¹

Peripheral bypass surgery
With graft patency being the predominant predictor of long-term graft survival, surgeons can improve patient quality of life and reduce reinterventions, using the MiraQ™ Vascular System. ²,³

AV Access
Flow quantification and intraoperative guidance are valuable tools for performing AV Access surgery. This improves the probability of a long lasting well functioning shunt, reduce the risk of cardiac failure and hand ischemia. ⁴

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Specialized design for vascular applications

- Adjustable arm facilitates visibility
- Practical storage for user manual and interface cables
- Connect to external screens and the hospital information systems
- Spatial efficient design allows for flexible system placement and movement in the operating room

Use a Guided Workflow for a simplified approach

Easy access to imaging and flow data through optimized screen view and interactive user interface

A flexible feature selection allows for tailor-made solutions

The Medistim MiraQ™ Vascular System may be delivered as a "Flow only" system, but can easily be upgraded on-site to include an Imaging module at a later stage

Practical storage for user manual and interface cables
Guided Workflow
Standardized quality assessment

Create your own Guided Workflow that describes your standard operating procedure, or use a community created template.

Minimize user interaction and increase work efficiency with preset measurement definitions and system configurations.

Vascular adapted interface
Designed for ease of use

Quick and easy selection of surgical procedure allows for simple measurement setup.

Upgradable to imaging
Modular design

The Medistim MiraQ™ Vascular may be delivered as a “Flow only” system, but can easily be upgraded on-site to include an imaging module at a later stage.

Side by side comparison
Before and after

Use the new side-by-side feature to compare any measurement against a reference measurement. Evaluate improvement and perform functional tests on the grafts.

Store and report the compared results with all values and indexes easily accessible.
**MiraQ™ Vascular** gives surgeons improved control, enabling planning, navigation and verification during vascular surgery.

**Intraoperative guidance**

See and measure

The **MiraQ™ Vascular** provides a comprehensive overview of the situation at hand.

Ultrasound imaging is a valuable tool for visualization and evaluation of the stenosis and the completed endarterectomy.

In the CEA procedure presented here, ultrasound imaging and TTFM was used to verify the location and severity of a stenosis prior to endarterectomy.

The color flow indicates little or no flow, and this is verified by a TTFM measurement.

**Verification**

While in the OR

An image of the carotid artery can reveal otherwise unseen imperfections and give the surgeon a chance to take appropriate actions.

The above post-endarterectomy measurements clearly show a successful removal of the stenosis and a greatly improved flow.

**Demonstrate quality**

For best surgical outcomes

Using surgical guidance and quality assessment with imaging and TTFM are in line with high quality standards.
Medistim MiraQ™ Vascular System

MQV1 - Standard configuration

<table>
<thead>
<tr>
<th>Profile</th>
<th>Channel configuration</th>
<th>System features</th>
</tr>
</thead>
</table>
| Vascular adapted interface with imaging and flow | Imaging 2 Flow 1 Pressure | Ultrasound imaging  
• B-Mode imaging  
• Color Doppler imaging  
• Pulsed Wave (PW) Doppler  
Transit Time Flow Measurement  
Pressure Measurement *  
Guided Workflow |

MQV0 - Standard configuration

<table>
<thead>
<tr>
<th>Profile</th>
<th>Channel configuration</th>
<th>System features</th>
</tr>
</thead>
</table>
| Vascular adapted interface with flow only | 2 Flow 1 Pressure | Transit Time Flow Measurement  
Pressure Measurement *  
Guided Workflow |

* Pressure channels are intended to be connected to a transducer to measure pressure directly.

Customizable Options

<table>
<thead>
<tr>
<th>MQV1</th>
<th>MQV0</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 extra flow channels</td>
<td>✔</td>
</tr>
<tr>
<td>1 Doppler channel</td>
<td>✔</td>
</tr>
<tr>
<td>1 extra Pressure channel</td>
<td>✔</td>
</tr>
<tr>
<td>1 AUX channel</td>
<td>✔</td>
</tr>
<tr>
<td>2 AUX channels*</td>
<td>✔</td>
</tr>
<tr>
<td>Printer support</td>
<td>✔</td>
</tr>
<tr>
<td>Printer support and color printer</td>
<td>✔</td>
</tr>
<tr>
<td>DICOM interface</td>
<td>✔</td>
</tr>
</tbody>
</table>

* AUX channels are designed to receive signals from other monitoring systems, such as ECG and pressure.

Field Upgrade Module

Name

Ultrasound Imaging Upgrade Kit*

System features

Add ultrasound imaging module to a flow-only system

* When a flow system with Doppler is upgraded, an ultrasound imaging module will be substituted in its place.

References


