Endovascular Surgery
Training-Evaluation-Simulation
EVE
EndoVascular Evaluator
Simulating Vascular Diseases Treatment

The result of 20 years of joint research between engineers and physicians, the Endovascular Evaluator is a tailor made model of human vascular lumen, created with a patented modeling technology using CT/MRI Data. High precision models of the principal vascular structures (Cerebral-Coronary-Hepatic-Renal) were integrated to create EVE. EVE provides a realistic IVR environment simulation experience that will satisfy your necessities for medical training, medical tools evaluation, and surgery rehearsal.

Medical Treatments supported by EVE

- Cerebral Artery Embolism with coil or balloon.
- Percutaneous Transluminal Angioplasty (PTA) with a balloon or stents.
- Percutaneous Transluminal Coronary Angioplasty (PTCA)
- Carotid Artery Stenting (CAS)
- Transcatheter Hepatic Artery Embolization (THAE)
- Percutaneous Transluminal Recanalization (PTR)
- Catheter and Guide Wire Insertion
- Aortic Stents Grafts

All modules of EVE may be exchanged and customized to simulate a diverse range of vascular diseases.

The reverse side of the arteries can be observed using the mirror plate.
Comprehensive Endovascular Surgery Simulation
The Next Generation in Medical Training

Images: Anjo Kosei Hospital

Special Universal Design Award
Robot Awards
Ministry of Economy and Industry of Japan
Prize of Excellence 2008
The endovascular surgery simulator EVE precisely reconstructs human vascular lumen registered with CT or MRI equipment, enabling surgical training, surgery rehearsal, and simulation of real diseases.

Based on this medical imaging technology we are able to reproduce vascular lumen and disease with high precision using our patented technology. The vascular structure of EVE is composed of 16 ready made modules; each module can be exchanged with Order-Made modules customized to your simulation requirements.

The simulator body is light weight, enabling easy transportation between practice rooms inside a hospital, ideal for Hands-On seminars, exhibitions and much more.

*Simulator body only, weight of the pump and other accessories is not included

The elasticity coefficient of arteries varies from 1 to 3 MPa, the silicone models are manufactured at 2MPa. Poisson Ratio is reproduced with a maximum error of 5% . The friction coefficient of arteries is of 0.038. The friction is set inside the simulator to 0.042. This parameter may be adjusted by the user changing the concentration of the surfactant circulating inside the simulator.

Simulation quality may be enhanced by using EVE inside a Fluoroscope, providing compatibility with a wide range of X-Ray imaging techniques. The silicone models of EVE are captured with a high level of detail allowing for practice navigation and catheter manipulation.

*Be aware of X-Ray exposure during simulation as in a real surgery
The body of EVE is composed of 16 modules, each one representing a segment of vasculature. All modules are connected using special connectors designed to not interfere with your simulation. This characteristic enables the easy exchange of modules and the assembly of different Ready-Made Models of EVE to fit your simulation requirements. This also enables the simulation a range of diseases in specific segments of vasculature. Each module can be created from CT/MRI data or illustrations depending on your precision requirements. Order-Made models are also available.

<table>
<thead>
<tr>
<th>Module</th>
<th>Cerebral</th>
<th>Carotid</th>
<th>Coronary</th>
<th>Thorax</th>
<th>Abdominal</th>
<th>Iliac</th>
<th>Aorta</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Angiography Type C</td>
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</tbody>
</table>
Basic Accessories

**Special Casing for Easy Transportation**

**Digital Manometer**

**Maintenance Kit**

**Surfactant**

Enhanced Simulation Accessories

A product line-up to improve your simulation experience...

**Fluid Control Unit**

Reduces the time required for setup and cleaning while reducing the risk of leakage. Enables fluid temperature control.

**Catheter Manipulation Area**

Provides a working area during the simulation for easy catheter manipulation and temporary storage.

**Camera Arms**

Take a closer look at your simulation by attaching a camera to one of our highly maneuverable arms. A standard version is available for high definition cameras and an Ultra Light version for Web Cams (Cameras Sold Separately).
We provide customized modules for you, based on your DICOM data of a case study disease, an illustration or sketch. The complexity of the tailor-made module increases with the precision of the data provided. Independent modules may be manufactured on request, feel free to contact us to design a module that meets your simulation requirements for Technical Training, Medical Equipment and Techniques Evaluation and Surgery Rehearsal.

Note:
- Delivery time and price Order Made products will vary depending on their complexity.
- Some CT/MRI data may not be useful for accurate modeling or may exceed our modeling capabilities.
- We cannot guarantee to exact reproduction of the vasculature of a patient as some sections of vasculature may appear unclear on CT/MRI data.

Clear silicone elastomer models reconstructed from CT/MRI data

Order Made models may be used separately combined with a stationary pump (Sold Separately).

### Specification Table

<table>
<thead>
<tr>
<th>Aproximate Size</th>
<th>1200mm X 600mm X 250mm(^{(1)})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aproximate Weight</td>
<td>Dry: 3.8 Kg(^{(1)}) Filled with water: About 5Kg(^{(1)})</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>EVE: 0 kVA Fluid Control Unit: 1.4kVA(^{(2)})</td>
</tr>
<tr>
<td>Basic Accessories</td>
<td>Digital Manometer, Special Casing, 5x100ml of Surfactant</td>
</tr>
<tr>
<td>Maximum Flow</td>
<td>10 lpm</td>
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<tr>
<td>Maximum Pressure</td>
<td>160 mmHg(^{(3)})</td>
</tr>
<tr>
<td>Required Area</td>
<td>1800x600mm+</td>
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<tr>
<td>Water Consumption</td>
<td>8 liters of purified water per simulation session(^{(4)})</td>
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</tbody>
</table>

\(^{(1)}\) EVE body without accessories \(^{(2)}\) Pump and Heater included \(^{(3)}\) May vary depending on operation conditions \(^{(4)}\) When Fluid Control Unit is used

### Contact Us

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- The real products may differ from the pictures shown in this catalogue.