Bringing Education Into Action
Endovascular Simulator: Simantha®
Medical Simulation Corporation’s (MSC) endovascular simulation system, Simantha, features sophisticated, reliable technology and a cognitive approach to patient care that delivers comprehensive training experiences to increase the competence and confidence® of healthcare providers. Simantha has something to offer every member of the interventional lab team, from nurses and technologists to experienced attending physicians. Team training programs and individual courses are available.

Simulation Features
The Simantha system incorporates multiple engines and components that work together during simulation procedures to immerse the trainee into a real-time and realistic interventional training experience.

- **Physics Engine**: Physics-based navigation of catheters, wires, and medical devices in 3D anatomies.
- **Pharmacologic Model**: Allows administration through traditional routes with corresponding effects to physiological parameters such as lab values, blood pressure, heart rate, oxygen saturations, level of consciousness, etc.
- **Rules Engine**: Drives the major and minor teaching points of a procedure in a consistent manner so that trainees get the pertinent points of the case but can follow a variety of different paths based on choices during the simulation.
- **Hemodynamics Engine**: Couples real-time hemodynamics, oxygen saturations, heart rate, and heart rhythm with the rules engine.
- **Accessory Simulation Tools**: Actual cath lab tools are incorporated into each case to drive realism and user interaction, and to immerse the trainee in all of the ancillary components of being in an interventional suite.
- **Data Tracking**: The simulator tracks hundreds of data points during simulated procedures. These data points can be manipulated to create metrics for a variety of marketing or training data.

Curriculum
MSC’s endovascular curriculum is authored by thought-leading physicians and/or experts in the field in which they author, and procedural content is guideline-based.

- **Cardiology Courses**
  - Acute Myocardial Infarction
  - Percutaneous Coronary Intervention
  - Right Heart Catheterization
  - Diagnostic Coronary Procedures
  - Interventional Core Competencies
  - Cardiovascular Skills Courses (Balloon Aortic Valvuloplasty and Transseptal Approach)
- **Peripheral Courses**
  - Aortic Dissection IVUS (concept case)
  - Renal
  - Iliac
  - Carotid
  - Superficial Femoral Artery
- **Neurology Courses**
  - Neuro Coils
- **Customized Programs**
  - Team Training
  - Cardiac Cath Lab Staff Orientation
  - Peripheral Cab Staff Orientation
  - Basic Endovascular Skills Program (BEST™)

Benefits
- Increased patient safety—ability to practice procedures in a risk-free environment
- Enhanced competence and confidence
- Consistent training of the entire interventional lab team
- Courseware applicable to all skill levels (team training and individual training programs), including medical and nursing students, residents, fellows, and attending physicians
- Procedural and skills training covering the entire process of care

“This unique educational method has real value, not so much in the mechanical aspects of the procedure, but in the cognitive aspects, meaning knowing what and when to do things, and what medicines or steps are required to avoid or solve problems as they occur. Teaching judgment is very hard and the simulator lets trainees test and exercise their judgment without patient harm.”

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