CAE Healthcare

2016–2017

I am the difference between looking and seeing. Between hearing and understanding. I am part vision, part science. Above all, human. I am committed to you, to your profession and your mission. I am innovation. I am education. I am the way healthcare learns. I am **CAE Healthcare.**

CAE Healthcare delivers simulation-based training solutions that help healthcare professionals provide safe, high quality patient care.

CAE Healthcare partners with organizations worldwide to offer realistic and relevant healthcare simulation training solutions. With a bold mission to improve patient safety and outcomes, we continuously strive to develop breakthrough products that advance learning and competency within risk-free settings.

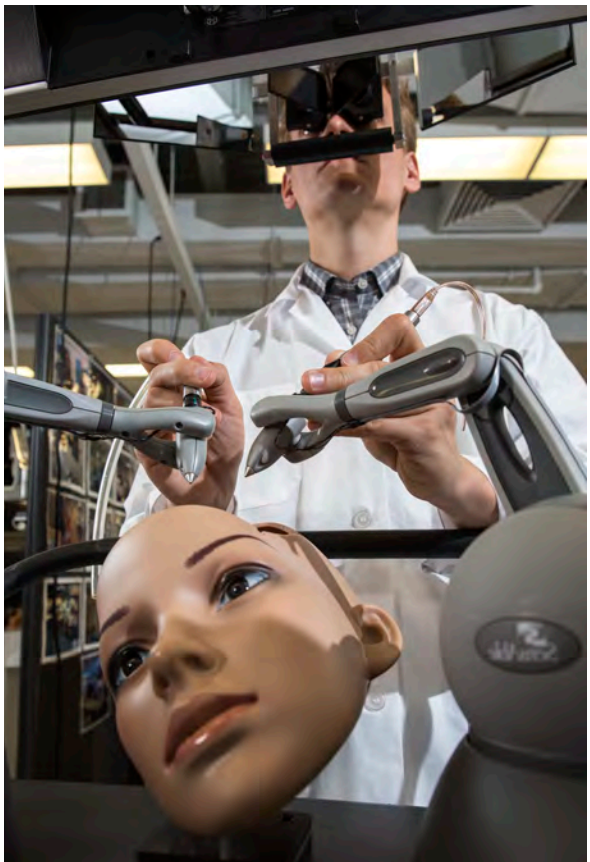
Our end-to-end spectrum of simulation solutions includes patient, surgical and imaging simulation, audiovisual solutions and learning modules. With a broad array of products, we are able to offer targeted training solutions to hospitals, medical schools, emergency response teams, military branches and nursing, respiratory and allied health programs.

Each CAE Healthcare product is developed in partnership with clinicians and clinical educators whose aim is to ensure physiological accuracy and educational relevance.

The CAE Healthcare family of learners is highly interactive, innovative and eager to share ideas and experiences. Join us at HPSN World, where people from every level of healthcare gather to push the envelope of healthcare simulation to improve learning and ultimately, to save lives.

To learn more, visit caehealthcare.com or hpsn.com

Table of Contents



CAE > A LEGACY OF INNOVATION

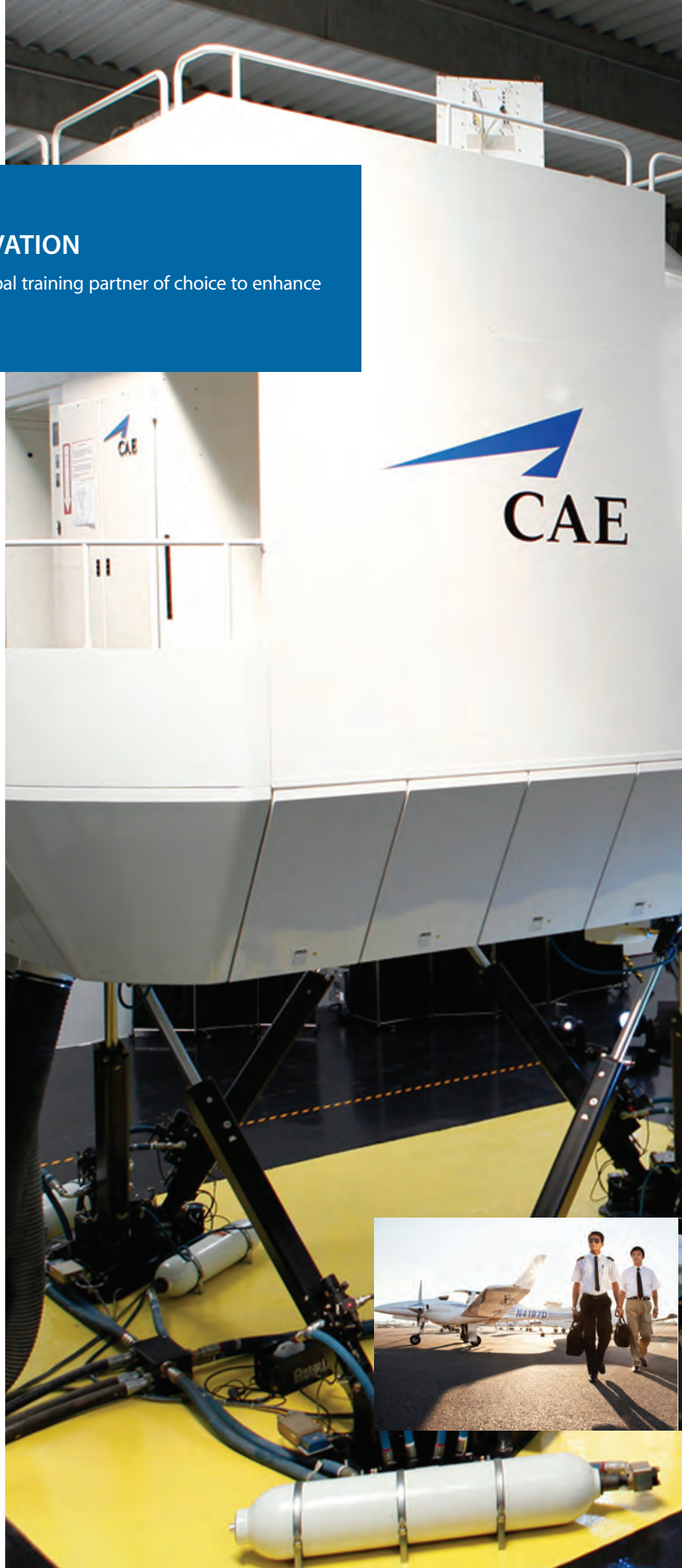
CAE's vision is to be the recognized global training partner of choice to enhance safety, efficiency and readiness.

From passenger safety to patient safety

CAE is a global leader in the delivery of training for the civil aviation, defense and security, and healthcare markets. We design and integrate the industry's most comprehensive training solutions, anchored by the knowledge and expertise of our 8,000 employees, our world-leading simulation technologies and a record of service and technology innovation spanning seven decades. Our global presence is the broadest in the industry, with 160 sites and training locations in 35 countries, including our joint venture operations, and the world's largest installed base of flight simulators. Each year, we train more than 120,000 civil and defence crewmembers and thousands of healthcare professionals.

CAE's business is diversified, ranging from the sale of simulation products to providing comprehensive services such as training and aviation services, integrated enterprise solutions, in-service support and crew sourcing. The company applies simulation expertise and operational experience to help customers enhance safety, improve efficiency and maintain readiness.

In 2009, CAE founded CAE Healthcare, a medical simulation business with a mission to leverage CAE's expertise to improve training and patient safety in healthcare. CAE Healthcare offers an unparalleled portfolio of simulation training solutions to medical schools, nursing schools, hospitals, defense forces and allied health programs. Today, approximately 9,000 CAE Healthcare simulators and audiovisual management systems are in use worldwide.



Pictured, a CAE aviation training center opens in Barcelona, Spain. Inset photos: CAE trains 120,000 crewmembers annually and is the world's leading designer and manufacturer of civil full-flight simulation equipment and training systems. CAE also supplies products and services to defense forces of more than 50 nations.

CAE HEALTHCARE > A COMMITMENT TO QUALITY

As medical technology advances, CAE Healthcare is committed to delivering relevant training solutions for today's healthcare environments. Our commitment to quality, innovation and world-class service inspires loyalty and a sense of shared purpose.

Engineering solutions for today's medical education and training environment

CAE Healthcare employs the world's finest modellers of human physiology and an experienced core of medical simulation engineers. With the added resource of more than 2,000 engineers within CAE, we offer an unrivaled depth of engineering expertise. From streamlining electronics circuit design to human factors engineering, we are dedicated to advancing simulation technology and accelerating the pace of product innovation.

We are also committed to operational excellence. To ensure that we deliver the highest quality products and user experiences, we have adopted Six Sigma and Lean Management practices in our manufacturing plant, a 100-point Acceptance Test Procedure (ATP) before product delivery, and a goal to achieve ISO 9001 compliance.

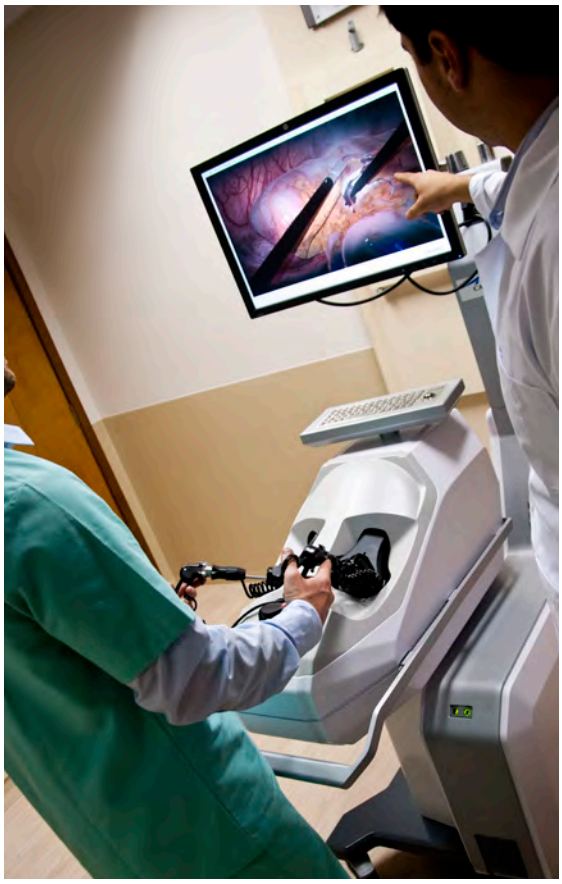
Our customer service principles are simple: reliability, responsiveness and rapid resolution. With customers in more than 100 countries, we employ regionally based technicians worldwide for improved accessibility, personal service and faster response times.

The CAE Healthcare manufacturing plant in Sarasota, USA is a Six Sigma and lean manufacturing facility where employees are dedicated to quality, product innovation and world-class service.

TURNKEY SOLUTIONS

CAE Healthcare offers a full array of products and professional services to meet your objectives relating to clinical preparation, quality and patient safety. Services range from strategic advice to complete project delivery.

Your Training Partner of Choice for Turnkey Solutions



Medical Simulation Training Center in São Paulo, Brazil

In a partnership with the Hospital Israelita Albert Einstein in São Paulo, Brazil, CAE built a turnkey medical simulation center inside its existing aviation training center to train healthcare professionals in the region and leverage best practices from aviation.

Professional Services – We draw from the global CAE Healthcare Academy and highly specialized subject matter experts who can assist with short-term and on-site projects, including equipment configuration, training and installation, curriculum development or custom Simulated Clinical Experiences (SCEs), interim staffing and center management.

Custom Solutions – Building upon our existing software and hardware platforms, modeling technology and engineering expertise, CAE Healthcare partners to provide custom training solutions and education for medical equipment manufacturers and professional associations, such as the American Society for Anesthesiologists (ASA) and the International Nursing Association for Clinical Simulation and Learning (INACSL).

Training Centers – We deliver turnkey simulation centers and comprehensive training programs from initial concept through ongoing operations and maintenance. Our turnkey solutions team can provide training needs analyses, business models, center design and build-out, simulation-based curriculum, equipment, furniture and supplies, staff management, operations and sustainability programs.

American Society of Anesthesiologists (ASA) Partnership

CAE Healthcare is teaming up with ASA to develop screen-based simulation for practicing anesthesiologists that will prepare them for Maintenance of Certification for Anesthesiology (MOCA) evaluations. CAE Healthcare's Müse physiology engine will be integrated into a virtual reality gaming environment for healthcare.

TurkmenSim International Simulation Center in Turkmenistan

CAE Healthcare delivered a turnkey solution for healthcare education from conception through grand opening, and now manages day-to-day operations in Turkmenistan.

Université de Montréal: Centre d'apprentissage des attitudes et habiletés cliniques (CAAHC)

CAE Healthcare manages the University of Montreal Faculty Learning Center, which provides structured healthcare education to more than 1,000 students each month as well as research into best practices in simulation.

Acibadem University Center of Advanced Simulation Education (CASE) in Istanbul

A CAE Healthcare Center of Excellence, the Acibadem University CASE center in Istanbul partnered on a turnkey solution that included consulting, equipment, curriculum and technical support.

A LEADER IN HIGH-FIDELITY SIMULATION

CAE Healthcare's patient simulators accurately mimic human cardiovascular, respiratory and neurological systems, and they automatically generate physiological responses. This allows learners and interprofessional teams to suspend disbelief and develop teamwork, communication and higher level critical thinking skills.

Setting the standard with validated, modeled physiology

Ever since the introduction of CAE Healthcare's first patient simulator, the HPS, our patient simulation line has set the standard for realism, accuracy and life-like physiology.

CAE Healthcare delivers sophisticated physiological models that adapt to interventions based on the patient's age, weight, underlying health conditions, and the accuracy of diagnosis and treatment.

For example, a patient's blood pressure might be low due to hypovolemia or vasodilation. In both cases, fluid infusion or the administration of a vasoconstrictor drug will raise blood pressure, but the effect on cardiac output, pulmonary gas exchange and tissue oxygenation will be markedly different. CAE Healthcare patient simulators respond automatically and accurately based on validated physiology. With the addition of the Vivo software in Apollo and Athena, facilitators also have the option to create and store their own physiology and patient responses and user-driven scenarios.

All of CAE Healthcare's patient simulators begin with Müse modeled physiology—the most accurate and advanced physiology available today. That's why our patient simulators are used at leading medical institutions around the globe, and why they are the training products of choice within high-stakes, mission-critical environments.

CAE Healthcare patient simulators rise to meet today's healthcare training challenges, from emergency medical training and nurse on-boarding to professional certification and competency assessment for physicians.

New!

Apollo™

Setting a new standard for realism in patient simulation

For years, METIman has been the benchmark for innovation, fidelity, quality and value in patient simulators. And now—with your help—we've made him even better. With powerful new features, stunning aesthetics, and even more realistic learning experiences, it only seemed fitting to give him a new name. Meet Apollo.

- Advanced CPR performance analysis measures hand placement and depth of chest compressions, chest recoil, ventilation rate and volume, cardiac output, coronary and cerebral profusion pressures
- Choice of two models — **Prehospital** with advanced airway management features **Nursing** with tracheostomy care, central line infusion and maintenance and gastric lavage/gavage

  Darker skin tone available
- Fully wireless and tetherless with blood on board. True scenario mobility allows instructor to switch from remote tablet to classroom workstation within a scenario

  Realistic airway, modeled from a patient CT scan, accepts more airway management devices
- Both Müse and Vïvo operating platforms are included

  Two standard patients and four validated Simulated Clinical Experiences (SCEs) included in Müse, and four SCEs in Vïvo

"We really like the physiologically based models. Simulation allows us to immerse a student in a near-real clinical situation." — *Carol Durham, Clinical Professor, University of North Carolina at Chapel Hill School of Nursing*

Learn more at caeapollo.com

New!

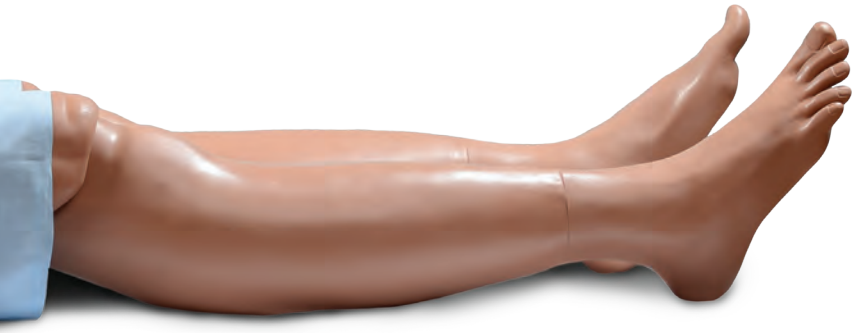
Vïvo operating platform for full instructor control over patient responses

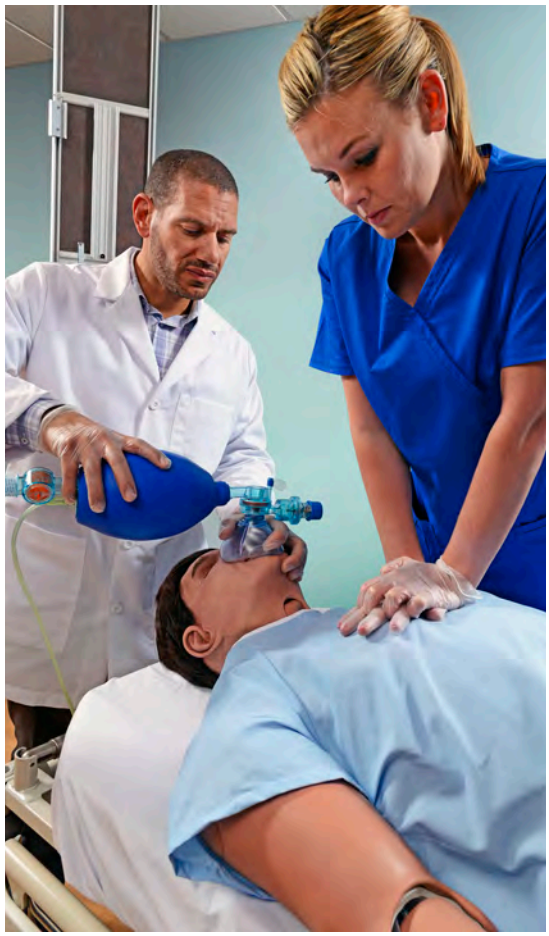
Apollo is durable and reliable, built on a platform that's been field-tested and proven by more than 1,600 customers around the world in nursing, allied health and medical education

CAE Healthcare Audiovisual Solutions

Get started with everything you need to capture a patient simulation from pre-brief through assessment and debrief. Add Replay for out-of-the-box recording and debrief, or choose LearningSpace for a complete center management solution. *Learn more on pages 58-64.*

ENHANCE YOUR DEBRIEF >





New!

Athena™

The world's most advanced female patient simulator

Athena allows learners to build confidence and competence before they treat a female patient. With realistic female proportions, anatomy and vocalizations, she enables healthcare teams to enhance clinical skills and judgement as they become fully immersed in simulated clinical experience.

- Advanced CPR performance analysis measures hand placement and quality of chest compressions, chest recoil, ventilation rate and volume, cardiac output, coronary and cerebral profusion pressures
- Fully wireless and tetherless for in situ training or mobile simulation and transport
- Bilateral and unilateral lung excursion
- Mechanical ventilation compatible with CMV and SIV modes
- Ventilation efficacy reflected in the alveolar and arterial gas concentrations
- Anatomically realistic and durable upper airway designed to allow for laryngoscopy and oral intubation
- Both Müse and Vïvo operating platforms are included

"Finally, we were able to purchase a manikin that looked, responded and performed like a true female patient." — *Mark Goldstein, Senior Director Simulation Center Florida Atlantic University Charles E. Schmidt College of Medicine*

With highly advanced lungs, Athena can respond automatically to mechanical ventilation and trigger a ventilator. Athena's CPR metrics are compliant with 2015 AHA guidelines

Learn more at caeathena.com

Müse

The added value of Müse, Vïvo and validated Simulated Clinical Experiences (SCEs)

Athena allows facilitators to choose between two operating modes based on the educational objective. The Müse platform is built around CAE Healthcare's physiological models that respond automatically to treatments and interventions. The Vïvo platform allows full facilitator control over all the patient's vital signs and responses.

TWO OPERATING PLATFORMS >

Müse includes five Simulated Clinical Experiences (SCEs)

Chronic Heart Failure Exacerbation
Acute Respiratory Distress Syndrome
Sepsis with Hypotension
Brain Attack with Thrombolytic Therapy
Motor Vehicle Collision with Hypovolemic Shock

Vïvo includes five Simulated Clinical Experiences (SCEs)

Heart Failure
Hypovolemic Shock
Brain Attack
Diabetic Ketoacidosis
Ventricular Fibrillation/Cardiac Arrest

Vïvo

Lucina™

Unrivaled realism and versatility for childbirth and female patient scenarios

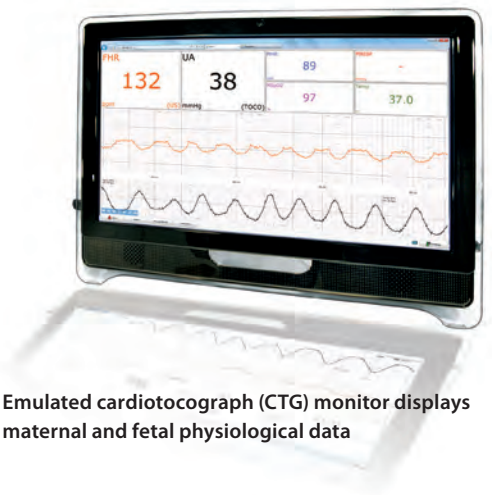
The Lucina simulator delivers exceptional reliability and fidelity for the practice of normal to rare childbirth scenarios and emergency care. Built on CAE's powerful Fidelis platform, Lucina has validated and integrated physiology that responds automatically to clinical interventions.

- Advanced birthing mechanism is reliable, stable and the quietest in the industry
- Realistic fetal landmarks and anatomically correct pelvis allow learners to identify fetal presentation, recognize stages of labor and practice normal, breech and emergency deliveries
- The only birthing simulator that comes with static cervices for prepartum assessment
- Placental extraction with a safe level of traction for delivery
- Advanced CPR performance analysis measures the quality and depth of chest compressions, ventilation rate and volume, cardiac output and more
- The only simulator that supports full maternal code as a gravid or non-gravid patient
- Post-partum hemorrhage reservoir holds 1.8 liters of blood for practice of a wider range of scenarios, including Class III hemorrhage
- Detects and logs uterine massage and bimanual compression to treat uterine atony, and allows for boggy or contracted uterus
- Baby cries upon delivery and delivers one-minute/five-minute APGAR predictions based upon central and venous blood gas values
- The most complete training method for shoulder dystocia management. Detects and responds to all obstetric maneuvers
- Observable pelvic tilt for practice of the McRoberts maneuver
- Full articulation of waist and hips to support multiple birthing positions
- Optional inverted uterus w/scenario

"We developed this simulator to achieve a level of realism that had not been seen before." — *Dr. Diogo Ayres de Campos, Perinatal Obstetrician and Professor of Medicine, University of Porto and lead developer of the Lucina physiological models*

CAE Healthcare's Lucina is the most reliable and versatile wireless female patient simulator on the market today. Practice pre-partum assessment, labor and delivery, emergency care and transport all within one simulator

Watch the Lucina video at caefidelis.com



Emulated cardiotocograph (CTG) monitor displays maternal and fetal physiological data

TWO PATIENTS, ONE SIMULATOR >

Female Patient Module

With the addition of the Non-Gravid Patient Module, Lucina transforms into a wireless non-gravid patient that is ideal for emergency scenarios. She offers a realistic airway, neck articulation that allows her to be placed in the sniffing position and advanced CPR performance metrics. Lucina is the first female patient simulator to support mechanical ventilation.

The module includes a non-gravid abdomen and five Simulated Clinical Experiences (SCEs)

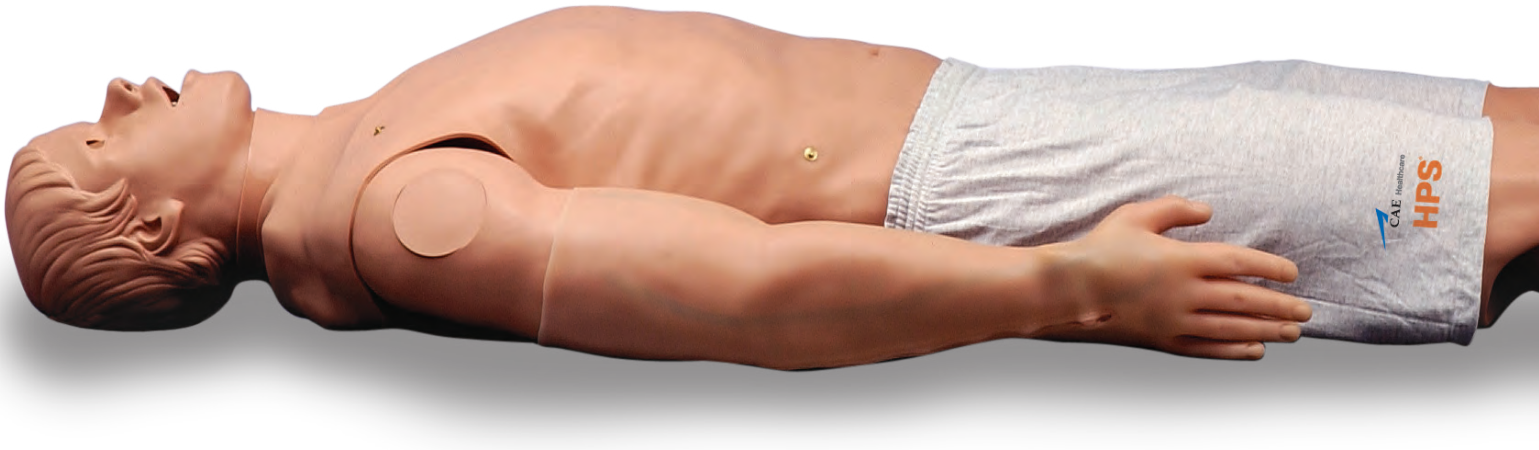
Chronic Heart Failure Exacerbation
Acute Respiratory Distress Syndrome
Sepsis with Hypotension
Brain Attack with Thrombolytic Therapy
Motor Vehicle Collision with Hypovolemic Shock

HPS® Human Patient Simulator

The only simulator that truly breathes — for anesthesia, respiratory and critical care

The Adult HPS and Pediatric HPS are the only human patient simulators on the market today that provide true respiratory gas exchange. The HPS interfaces with real clinical monitors and ventilators, and automatically responds to the administration of real anesthetic gases, oxygen therapy and medications.

- Reactive pupils
- Uptake and distribution of nitrous oxide and volatile anesthetics
- True gas exchange, with self-regulated rate and tidal volume to maintain a target arterial carbon dioxide partial pressure
- Variable airway resistance, lung compliance, and chest wall compliance, with independent control of the left and right lungs
- Oxygen therapy and ventilation register on real monitoring equipment, such as a capnograph or respiratory gas analyzer. The respiratory system is capable of triggering a ventilator
- Mechanical ventilation fully supported with automatic responses to CPAP, PSV, SIMV, assist control modes and weaning protocols
- Drug Recognition System identifies drug concentration and volume with pharmacokinetic modeling for more than 60 intravenous drugs
- Thumb twitch linked to neuromuscular blocking agent response



"The HPS is the Cadillac of patient simulators."

— Anthony Guerne, MS, NREMT-P, Patient Simulation Specialist, NYIT-College of Osteopathic Medicine

Residents practice an anesthesia scenario at the Icahn School of Medicine at Mount Sinai Simulation HELPS Center

EDUCATOR: INNOVATOR >

Watch the Icahn School of Medicine at Mount Sinai video at caehealthcare.com

Icahn School of Medicine at Mount Sinai Simulation HELPS Center

New York City, USA

At the Icahn School of Medicine in New York City, Dr. Adam Levine directs simulation training for medical students, residents and physicians at all levels of practice in the Department of Anesthesiology's Simulation HELPS Center (Human Emulation, Education and Evaluation Lab for Patient Safety). An early adopter of human patient simulation, the Department of Anesthesiology founded the lab in the spring of 1994 with the first commercial HPS.

"We've always been a very early adopter of technology," says Levine. "We're proud of our innovation." Today, the Simulation HELPS Center is known for its leading-edge simulations for professional licensing, retraining and competency assessment. In addition to offering regular Maintenance of Certification in Anesthesiology (MOCA) courses, the Simulation HELPS Center has conducted high stakes competency assessment for medical licensing bodies based in Vermont, New Jersey and New York.

Using HPS simulation, the staff has remediated physicians who have been remanded by the New York Office of Professional Medical Conduct due to poor outcomes.

The center also retrains individual anesthesiologists who have been on prolonged hiatus or who want to expand their practices. The clinical staff creates the training and assessment scenarios on the HPS.

"There is no alternative for us," says Dr. Levine. "With the types of simulation we do at Sinai, we would not feel comfortable or be capable of creating them with any simulator other than an HPS. It immediately lends the fidelity that we need."

Caesar™

Trauma patient simulator for point-of-injury care

Environmental conditions in combat or "point-of-injury" situations can be hostile and make emergency care demanding. Rugged, durable and water-resistant, Caesar is a trauma patient simulator that can be used in different types of terrain, climates and other challenging elements. Caesar is wireless and can be operated remotely with the Müse platform.

- Durable airway supports most adjuncts for intubation, bagging and cricothyrotomy
- Vocalizations have a 400-foot range, enhancing outdoor and search and rescue simulations
- Water-resistant for hazardous material and decontamination exercises
- High-pressure arterial or venous bleeding with 1.4 liters of blood on board and four tourniquet locations with sensors
- Ruggedized for outdoors (4C-40C/40F-14F) with resistance to heat, humidity, sand, dirt, impact and rough handling
- Six-hour battery with true hot-swap capability
- Fully posable in sitting or recovery positions
- 10 military or civilian Simulated Clinical Experiences (SCEs) included
- Optional wounds include left leg with blast injury, multiple shrapnel wounds, facial wound, wrist injury forearm and right hand gunshot wound

"With ruggedized Caesar our students are truly challenged from point-of-injury through hospital admittance to include decontamination. He allows students to realistically practice their prehospital assessment skills." — *Mick Castillo, Technology Integration Coordinator, Center for Domestic Preparedness*

The Caesar trauma patient simulator passes through the decontamination line at the Center for Domestic Preparedness

EDUCATOR: INNOVATOR >

Learn more at caehealthcare.com

Center for Domestic Preparedness U.S. Department of Homeland Security

Anniston, USA

Over the course of a month, the 100-bed hospital in Anniston, Alabama, might overflow with victims of smallpox, mustard gas, dirty bomb explosions, chemical poisoning, mass shootings or natural disasters—all simulated and dropped into a routine hospital setting. As part of the Center for Domestic Preparedness, the Noble Training Facility (NTF) is the only fully operational hospital in the U.S. dedicated to preparing all disciplines of healthcare for mass casualty events caused by weapons of mass destruction and natural disasters.

"When they come to us, they already have the skills, and we throw them into the midst of a catastrophic disaster," said former Exercise Manager Robi Mobley (Mobley is now with CAE Healthcare). The Noble Training Facility has an emergency room, medical and pediatric ICUs, a pediatric unit, three operating rooms, labor and delivery rooms, a nursery and a collection of patient simulators that includes 12 METIman simulators, five Caesars, five adult HPS and four pediatric HPS simulators.

The scenarios are complex and challenging, intended to impact experienced clinicians on many levels. For example, the hospital might discover that a chicken pox outbreak is actually smallpox. Students may have to lock down or isolate the patients. "Add a botulism scare, a shooting, an abducted baby and a couple of drunks, and you have a normal day in an emergency room," said Mobley. "We throw in these distractors to help break the stress level."

Often, a facility or region will send a team of physicians, nurses, EMTs and medics to run through a scenario. "In a mass casualty situation, people could be pulled from all aspects of the hospital setting," Mobley said. "We've even had CEOs and CFOs come in."

iStan®

Fully mobile with unlimited patient states and scenarios

iStan is the most advanced wireless patient simulator on the market, with excellent articulation and full mobile capabilities. iStan's modeled, integrated physiology allows instructors to launch a simulation with two clicks, or to program an unlimited number of patient states and scenarios for advanced practice.

- Mechanical ventilation supported with variable lung compliance and software-controlled airway resistance
- Darker skin tone available
- Fully wireless and tetherless with blood, fluids and power on board
- SpO_2 finger probe is integrated with patient monitor display
- Advanced physiology with the capacity to create an unlimited number of patient profiles and scenarios
- Realistic airway, modeled from a patient CT scan, accepts more airway management devices
- Air-worthiness certified by U.S. Army and U.S. Air Force
- Trauma features include flail chest, cyanosis, capillary refill, trismus, and sternal and tibial IO access

"The iStan with mechanical ventilation functionality is a game changer for the USA Simulation Program." — *Mike Jacobs, DNS, RN, Director, University of South Alabama Simulation Program*

The Faulkner State Community College nursing faculty presents its dramatic "Texting While Driving" simulation to more than 1,000 high school and college students

EDUCATOR: INNOVATOR >

Learn more at caehealthcare.com

Faulkner State Community College

Fairhope, USA

In a dark auditorium packed with more than 1,000 high school and college students, all eyes are transfixed on an emergency room reenactment. A medical team has been working to resuscitate a 17-year-old driver who has suffered multiple injuries in an auto accident. According to the 911 call, the young driver had been witnessed swerving and texting while driving. As the teen's sister stands by his side and the mother wails for her son, the emergency room nurse delivers devastating news. In the final scene, the team zips the teenager into a body bag and wheels him away.

Faulkner State Community College in Alabama uses patient simulation to teach nursing and health sciences students to respond to patient trauma. The faculty has also created a simulation to raise community awareness about the dangers of texting while driving.

The scenario was conceived by two of the college's adjunct faculty; ER Nurse Carman Godfrey and Flight Nurse Valarie Rumbley. "Both of them see traumatic events on a regular basis, and they had seen numerous texting while driving injuries," said Faulkner State Nursing Instructor Katrina Allen-Thomas. "It was their vision, and they had a really strong conviction about it."

During the hour-long reenactment, a moulaged iStan rapidly transitions to bradycardia and asystole.

The vision of FSCC is to encourage others to use their simulation to reach their communities regarding the hazards of texting and driving. "I know this is going to take us places because it already has," Allen-Thomas said. "Every day, I get 15 to 20 emails that say, 'thank you so much.' I know we've saved a life along the way."

PediaSIM®

Realistic physiology for practice of pediatric care—because children are not just small adults

PediaSIM represents a six-year-old patient with a realistic airway, thorax and anatomical features to support a wide range of clinical interventions. PediaSIM is available on the HPS platform, which is designed for anesthesia, respiratory and critical care, or the ECS platform, for medicine, nursing and health sciences.

- Realistic modeling of pediatric cardiovascular, respiratory and neurological physiology
- Vascular access includes IV arm, IO sites, jugular
- Advanced realistic airway that accommodates LMA, ET and combitube placement
- Advanced difficult airway trauma features allow practice of nasal and oral intubation and needle cricothyrotomy
- Emergency airway procedures include needle cricothyrotomy, transjet ventilation, chest tube replacement, needle decompression
- Accommodates live defibrillation, cardioversion and pacing using live defibrillators. Energy is automatically quantified and logged
- (PediaSIM HPS only) Supports mechanical ventilation and oxygen therapy with monitoring on real clinical equipment
- Drug Recognition System identifies drug concentration and volume with pediatric parameters for more than 60 intravenous drugs

"The physiology of the pediatric simulator plays a definitive part in the students' them to critically think in providing the care needed for their pediatric client."

A respiratory therapist at the WakeMed Center for Innovative Learning, which provides simulation training for all the clinicians within its pediatric program

EDUCATOR: INNOVATOR >

assimilation of the physiological changes in order for

— Joy Thomason, RN, MSN, Assistant Professor at the Union University School of Nursing

Learn more at caehealthcare.com

WakeMed Health and Hospitals

Raleigh, USA

It's a Thursday morning in the Emergency Department at WakeMed Raleigh Campus. An experienced pediatric trauma physician is trying to help a young boy who appears to be experiencing serious respiratory distress and is not responding to medication. Looking on anxiously, the frantic mother is bombarding the doctor with questions, when all of a sudden, the boy's father bursts through the door, demanding to know what's happening to his son and challenging the physician's competence. The commotion is interrupting the physician, adding to the difficulty of identifying the patient's problem. Unfortunately, the young boy arrests and dies in spite of a valiant effort by the trauma team to save him.

Fortunately, the boy is a PediaSIM patient simulator, designed and built to present the physiology of a 6 year-old child, and the mother and father are actors hired to add to the realism and stress to the simulation scenario being conducted by a multidisciplinary team in WakeMed's Center for Innovative Learning.

Pediatric medicine and critical care is a world of low-volume, high-risk events, and as a result, resident physicians, for example, have less opportunity to acquire the deep knowledge and experience required to handle life-threatening situations.

Simulation provides the ideal remedy for this, according to Dr. Mark Piehl, medical director, WakeMed Children's Hospital and director of the Pediatric Division of WakeMed Physician Practices.

"Because a critically ill child is much more intimidating and anxiety-provoking to clinicians, the extra emotion and stress can cloud a provider's effectiveness, but simulation gets them used to treating children and dealing with both positive and negative outcomes including death," contends Piehl, who goes on to say that all clinicians in the pediatrics program at WakeMed must go through simulation training. "Nurses routinely tell us they are glad they went through the simulation rotation because when the real code occurred, they knew what to do and were more confident about their role, where they needed to be and where the equipment and meds were."

BabySIM®

Infant patient simulator for life-saving critical care

Driven by validated models of infant cardiovascular, pulmonary and neurological systems, BabySIM generates automatic responses to clinical interventions to prepare healthcare professionals for critical events relating to infants.

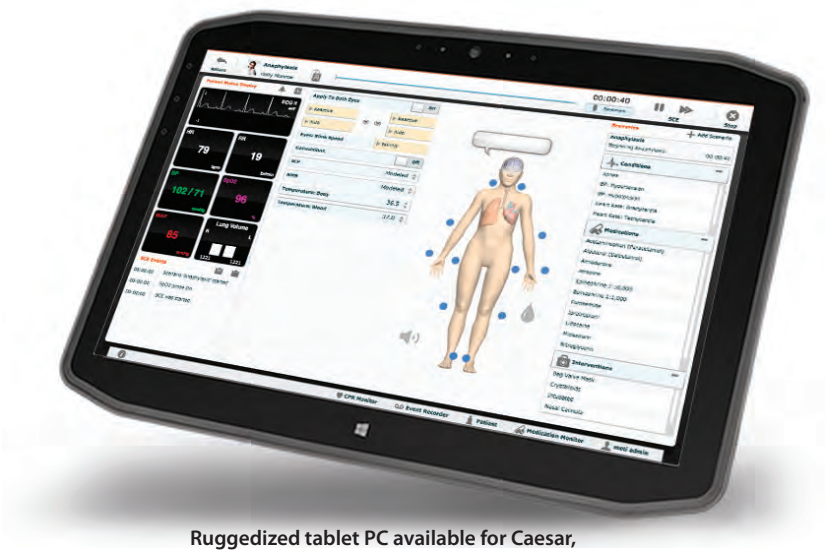
- Realistic modeling of infant cardiovascular, respiratory and neurological physiology
- Bulging fontanel capability
- Advanced trauma features allow practice of esophageal, nasal and oral intubation, transthoracic pacing, needle decompression and chest tube insertion with fluid return
- Intraosseous insertion
- Two standard patients and four Simulated Clinical Experiences (SCEs) included
- Reactive eyes and blinking
- Secretions from the eyes, ears, and mouth

"Our BabySIM simulator offers a safe environment for osteopathic medical students to apply their knowledge on providing an empathetic nurturing approach to newborn care."

—Dr. Marti Echols, Ph.D., Associate Dean for Academic Affairs and Dr. Natasha Bray, DO, MSEd, FACP, FACOI, Associate Dean for Clinical Medicine, Arkansas College of Osteopathic Medicine

See your sales manager or distributor for a full list of accessories

Simulator Accessories



Ruggedized tablet PC available for Caesar, iStan, Apollo, Athena and Lucina

Full Function Monitor Interface
The Full Function Monitor Interface allows the simulator to connect with standard patient monitors, providing the trainee the ability to use and interact with the actual equipment used in the clinical setting. The physiological models within the simulator generate the appropriate signals, which drive patient monitoring equipment in a realistic way via the standard transducer inputs. Available for HPS and PediaSIM HPS only.

Instructor's Wireless Remote Laptop
The instructor's wireless remote laptop allows for complete simulator operation by a single instructor from any location within the simulation lab setting. The screens and control structure of the remote are identical to the instructor's workstation. Available for HPS and PediaSIM only.

Hands-Free Defibrillator Cables
- Hands-Free Cable Kit – Zoll
- Hands-Free Cable Kit – Physio Quick Combo
- Hands-Free Cable Kit – Philips

Wall Air Kit
The Wall Air Kit includes hoses and regulators that allow any simulator to be hooked to any in-wall compressed air supply, bypassing the compressor. Not available for Caesar.

Ruggedized Tablet PC
The instructor's tablet PC is built to survive harsh work environments, with integrated WiFi, MIL-STD-810G protection against drops and an IP52 rating against dust and moisture.

Vïvo-compatible Tablet
Operate your simulator with Vïvo anywhere or on the go with our reliable tablet workstation.

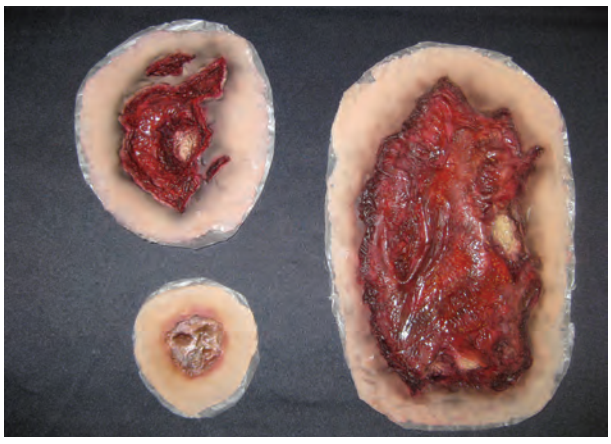
Drug Recognition System
The enhanced Drug Recognition System utilizes barcode technology to identify the drug administered and its concentration and quantifies the dosage given by the trainee. Available for HPS and PediaSIM HPS only.

Pharmacology Editor

The Pharmacology Editor takes learning to the next level by allowing users to customize the drug responses on their patient simulator. With the Pharmacology Editor, users can add new drugs to the library, modify pre-programmed drug responses and adapt the pharmacokinetic and pharmacodynamic parameters of a specific drug or set of drugs for a specific patient or patient population.

FX™ Simulated Wound Kit

Developed with the assistance of the U.S. Army, FX is a moulage simulation solution that comes in a convenient flight case with organized product compartments. Standard equipment includes head wound, compound fracture, burns, lacerations, bullet wounds, simulated blood and more. Optional components include amputations, degloving of the hand and impalement.



FX electrical burn wounds

Müse®

The power of validated physiological modeling

With Müse, your patient simulator responds automatically and accurately to treatments and interventions so you can focus on your learners. You can choose to run scenarios, modify patient parameters as needed or operate the simulator on the fly. Enjoy the freedom and versatility to write and edit scenarios away from the simulation lab with four additional licenses for any Mac or PC.

Simulated Clinical Experiences (SCEs) bundle ready-to-go patient, scenarios, educational content and setup preferences to automatically load together when you run an SCE

Upload images of patient records, lab reports, x-rays and audio and video files to view during simulations for enhanced realism

Patient status display can be customized to show vital signs, cardiac output, respiratory status and more, including SpO_2, ECG and capnogram

Recent event logs on the run screen keep you updated, while complete event and physiological data are logged in the SCE history

Content in 11 languages—French, English, Japanese, Korean, Russian, Polish, Spanish, Traditional Chinese, Simplified Chinese, German, and Portuguese

Parameter controls allow you to operate on-the-fly by adjusting model parameters and using overrides

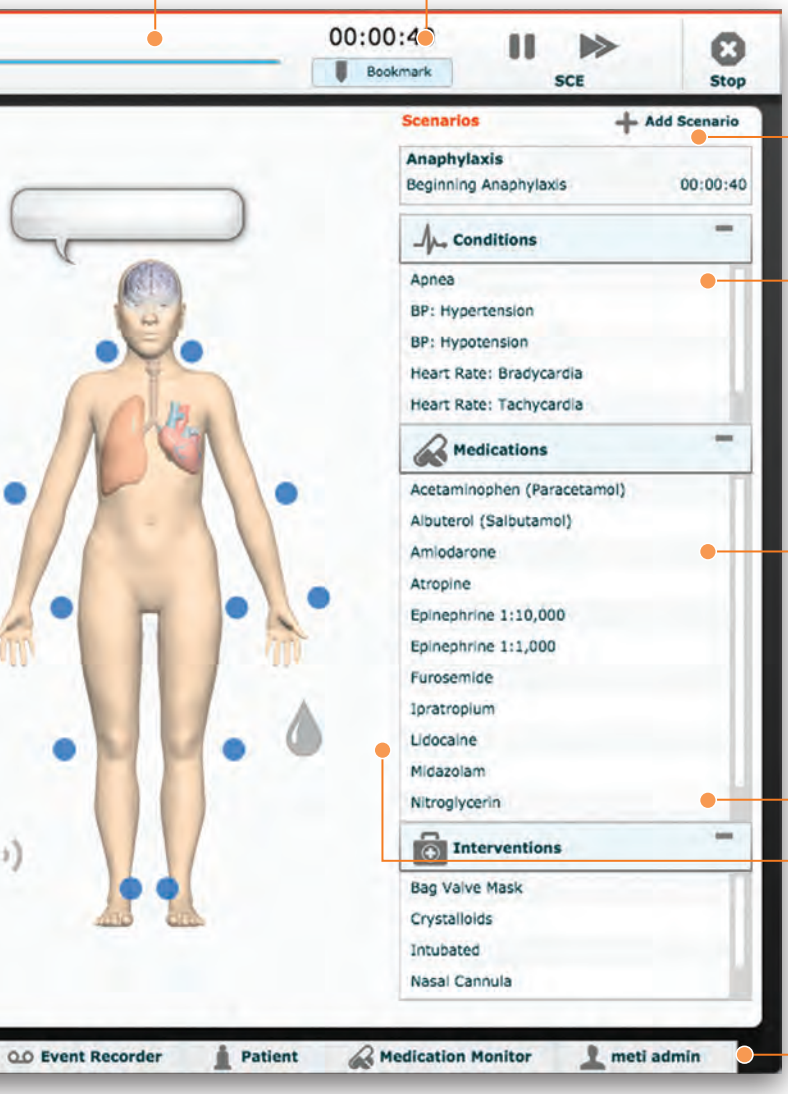
Event Recorder button allows users to save parameter settings for use later in building scenarios

TouchPro™

TouchPro Simulated Patient Monitoring Software

Müse includes TouchPro patient monitoring software, which can display four numeric vitals and up to six waveform traces, including 12-lead ECG and capnography. TouchPro is web browser based for Mac or PC, and can be run on a TouchPro touchscreen computer or tablet.

SCE timeline provides the ability to place bookmarks throughout an SCE and to return to the patient's bookmarked physiology at any point



Scenarios automatically load as part of the SCE. Scenario states and progression can be controlled directly from the run screen

Quick links allow an instructor to change a patient's physiology instantly. Run the same scenario with a stable or unstable patient to challenge learners' critical thinking skills

Layer conditions, administer medications and record interventions directly from the customizable quick link menus

Extensive drug library is integrated with physiology

Navigate controls by clicking the patient diagram

Password protected multi-user system allows institutions to set privileges of users and operators

Patient reset button allows you to quickly save and return to the patient's original baseline physiology without restarting the SCE

Medication Monitor shows current concentration of any administered medication in the patient. Administered drugs can be "reset," immediately removing all effects of the medication from the patient

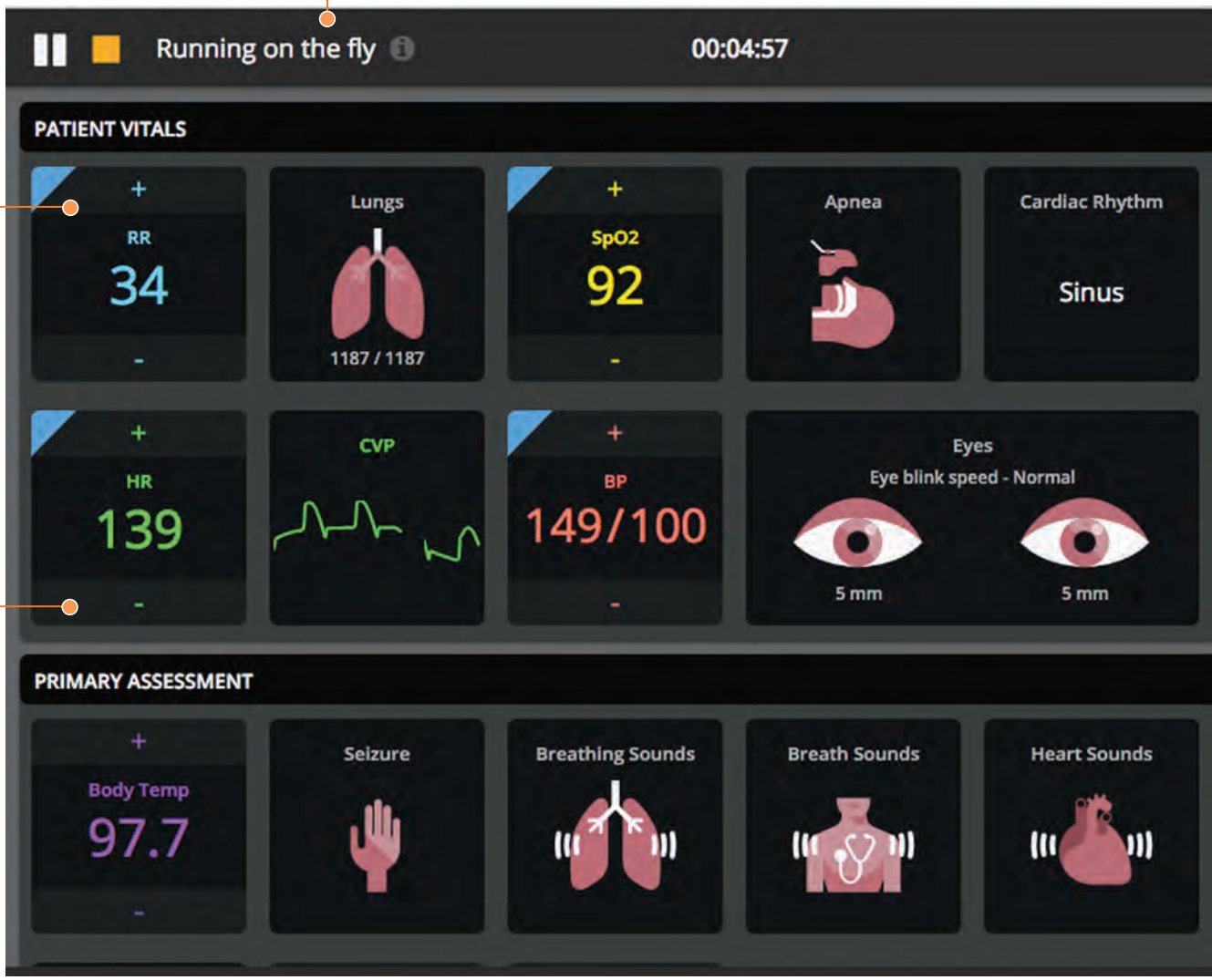
Vïvo™

Facilitator-driven software for full manual control of your simulations

Vïvo is an intuitive, mobile platform that allows you to operate CAE Healthcare patient simulators without modeled physiology. Create the patient you need, and quickly capture treatments and interactions. Vïvo places you in the center of the simulation environment and connects you with your learner.

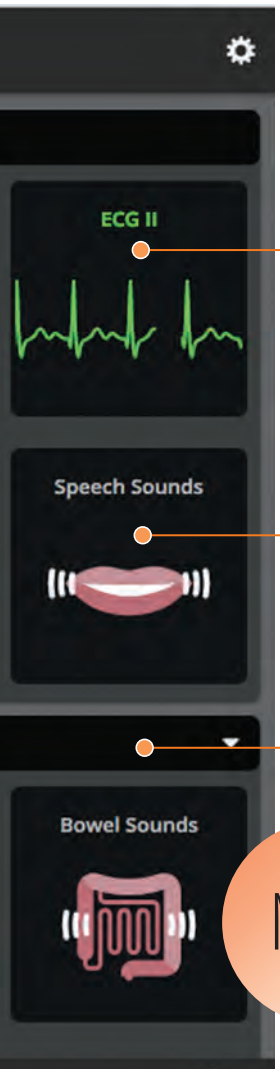
Upon startup, select a Simulated Clinical Experience (SCE) or operate on the fly. Choose the SCE editor to create and store scenarios

Icon-based monitoring is user-friendly and allows you to manage the patient's vital signs and responses to medications



Create a scenario with a touch. Vivo's modern, mobile platform is designed for tablet, but can also be operated from a laptop

Control complex patient parameters



Control all of the simulator's vital signs and responses, from heart sounds to response to oxygen therapy

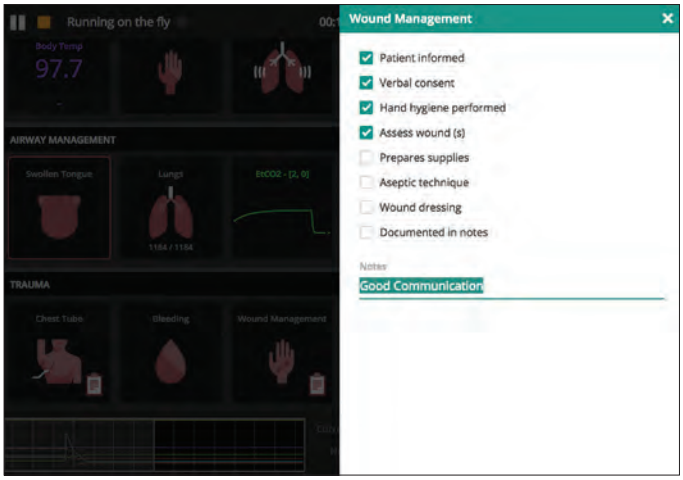
Touch a patient vital sign to change a pulse, add a sound or create a state, such as obstructed airway

A simple finger swipe to the left or the right brings up checklists or medications

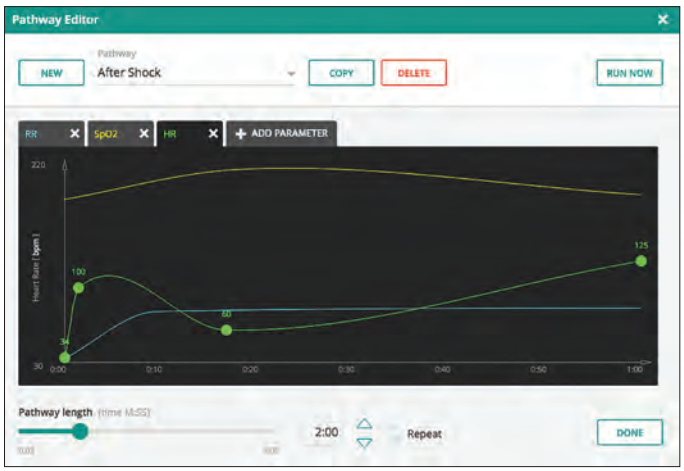
New!

Now included with Athena and Apollo patient simulators

Learn more at caevivo.com



Capture learner performance and instructor notes with integrated checklists



Create a patient pathway, a change in multiple vital signs over time

PIONEERING ULTRASOUND TRAINING SOLUTIONS

CAE Healthcare's dynamic suite of ultrasound simulation training solutions shorten the path to imaging competency and allow users to gain experience and confidence assessing a broad range of patients and pathologies.

The promise of better patient outcomes

The rise of medical ultrasound use for bedside assessment, diagnostics, perioperative monitoring and guided interventions has been driven by improvement in technology, cost-effectiveness and growing clinical evidence of improved patient outcomes through reduced errors and complications. The value of ultrasound is so widely recognized that it has been termed the stethoscope of the future.

The use of ultrasound can improve patient management and outcomes, but its effectiveness is highly dependent on the skill of the practitioner. The rapid growth in ultrasound has resulted in a need for effective training solutions.

These training solutions must:

- Meet specific training requirements based on the background and specialty of the trainee
- Effectively allow the trainee to build the skills necessary to apply ultrasound to clinical practice
- Minimize patient risk
- Be scalable to efficiently meet the enormous demand for training

CAE Healthcare provides a portfolio of ultrasound simulation solutions that uses innovative technology, trains healthcare professionals to use ultrasound in numerous clinical settings, provides scalable self-directed learning for trainees that reduces the onus on instructors and allows for risk-free clinical practice without real patients.

The full spectrum of CAE Healthcare's ultrasound simulation products includes the following:

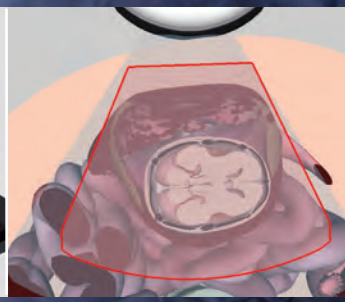
Vimedix™– An ultrasound simulator that provides a complete and innovative training environment for cardiac, abdominal and obstetrics/gynecology applications.

Blue Phantom™– Patented and durable task trainers that allow learners to develop proficiency and confidence when performing assessments and interventions in order to improve patient safety.

Full-Service Training Solutions – CAE Healthcare's ICCU programs include comprehensive e-learning curricula, hands-on seminars and a quick reference guide for conducting FOCUS (Focused Cardiac Ultrasound) exams on mobile devices.

The Blue Phantom Focused Assessment with Sonography for Trauma (FAST) exam simulator is designed for practice with the user's ultrasound system.


LIVER
HEART
RIGHT ATRIUM

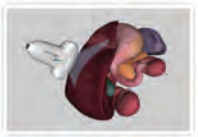


Vimedix™

A comprehensive ultrasound simulator that provides a realistic learning experience using innovative technology

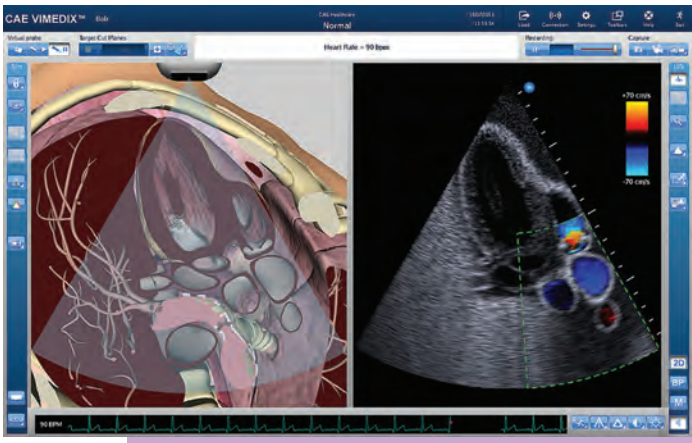
CAE Healthcare's Vimedix ultrasound simulator provides an innovative training experience that can meet the specific needs and schedules of both instructors and trainees. The sophistication of the platform allows faculty to adjust the level of difficulty, while the user-friendly interface and virtual instructor provides the flexibility of self-directed learning. Vimedix also has one of the largest libraries of pathologies developed in collaboration with clinical experts and reputed institutions. With metrics that have been validated in peer-reviewed scientific publications and an unparalleled learning experience, Vimedix is the ultrasound simulator of choice for your trainees.

Vimedix™ Cardiac

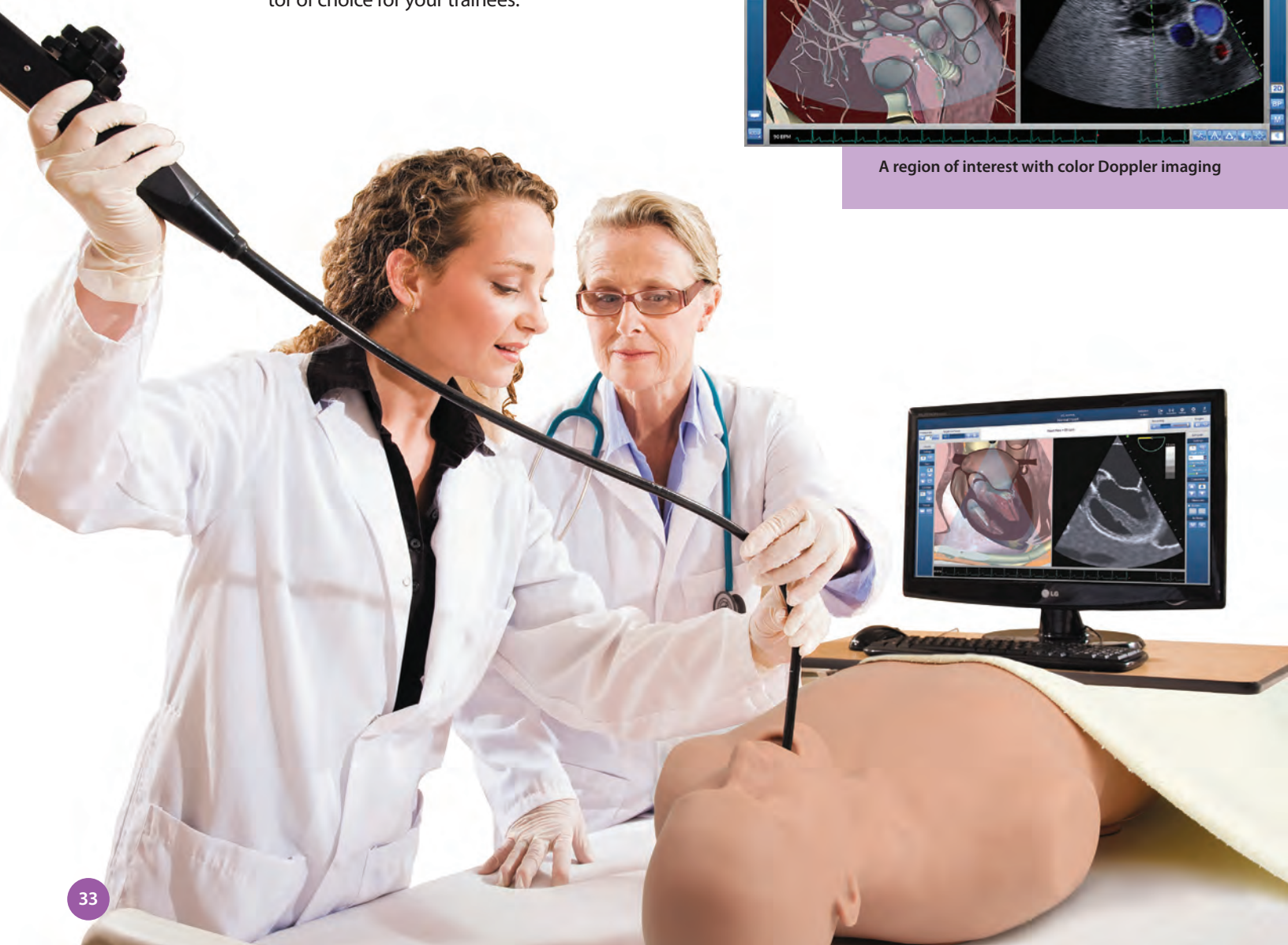


Vimedix™ Abdo

Vimedix™ Ob/Gyn



A region of interest with color Doppler imaging



Vimedix™ Cardiac

Transform the way that your trainees learn to perform and interpret transthoracic and transesophageal echocardiography with more than 60 pathologies

New!

Next Generation Pathology+ Packages

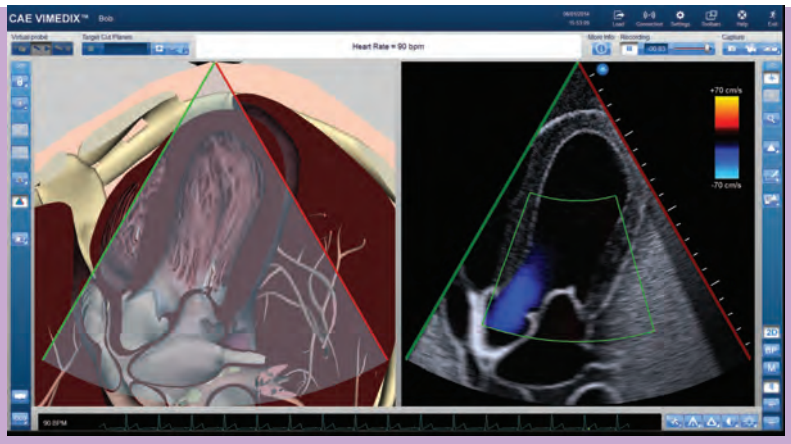
- Montreal Heart Institute Acute Complex Pathology+ Package
- Abdominal Aortic Aneurysm Pathology+ Package

The Vimedix Cardiac ultrasound simulator is a comprehensive platform allowing trainees to learn how to perform and interpret echocardiography exams.

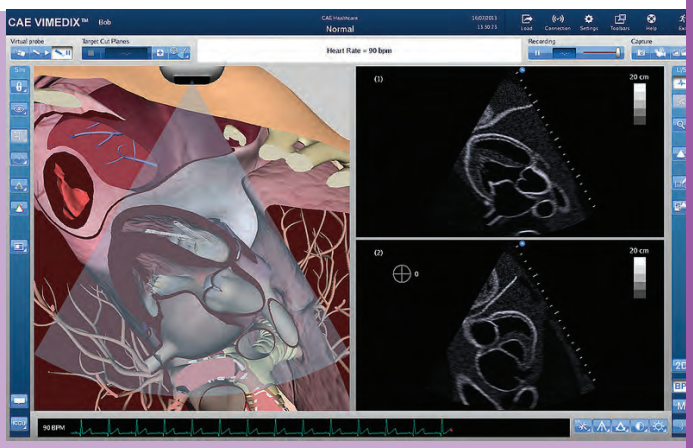
- Learn to perform transthoracic echocardiography (TTE) and transesophageal echocardiography (TEE) without risking the safety of real patients
- With 3-D augmented reality, learn basic anatomy as well as the relationship between the transducer beam and the ultrasound image
- Use validated metrics to assess the performance of your trainees
- Learn on your own with a Virtual Instructor as well as integrated ICCU e-learning modules with more than 15 hours of content
- Learn to assess and recognize pathologies you may not be able to see during clinical training

Training on Vimedix "can reduce the early learning curve for trainees."

Simulator-based Transesophageal Echocardiographic Training with Motion Analysis: A Curriculum-based Approach," Anesthesiology. 2014 Aug; 121(2):389-99



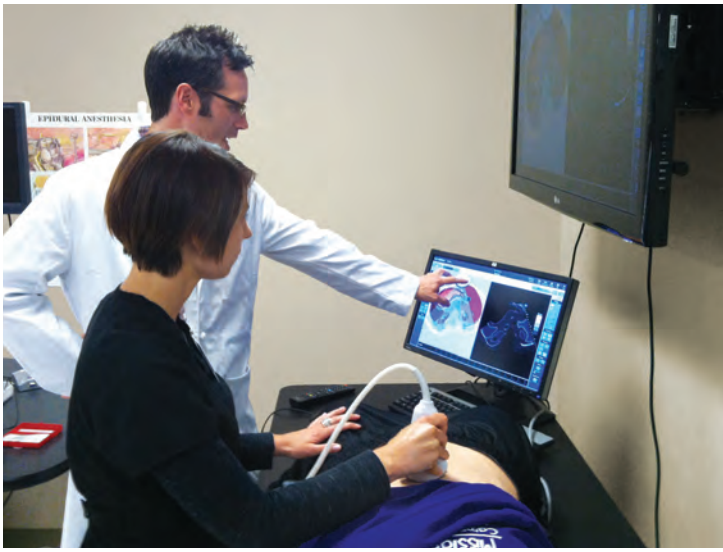
A case of Takotsubo cardiomyopathy



A biplane view

Vimedix™ Abdo

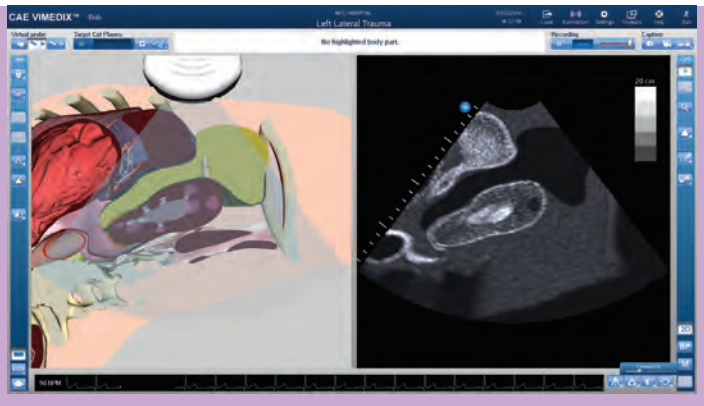
Engage your trainees and allow them to learn to conduct abdominal ultrasound exams including FAST exams



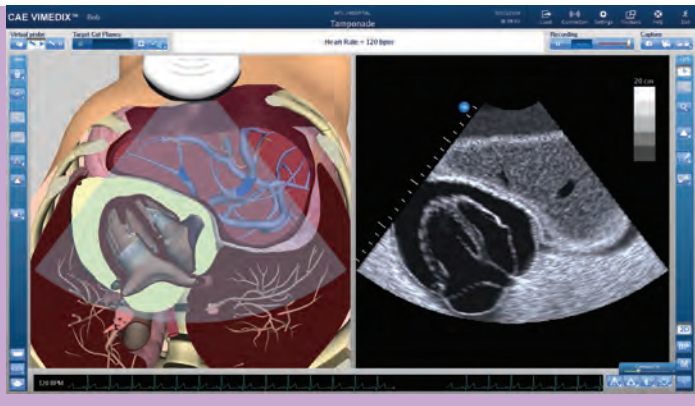
The Vimedix Abdo ultrasound simulator teaches trainees to perform and interpret abdominal ultrasound exams.

- Learn to perform abdominal ultrasound exams and FAST exams using a curvilinear ultrasound probe
- With 3-D augmented reality, learn basic anatomy as well as the relationship between the transducer beam and the ultrasound image
- Learn to assess and recognize more than 50 pathologies including 20 FAST (Focused Assessment with Sonography for Trauma) exam cases

Practice point-of-care ultrasound assessment for emergency care with pathologies based on real patient cases



Left lateral trauma



Tamponade

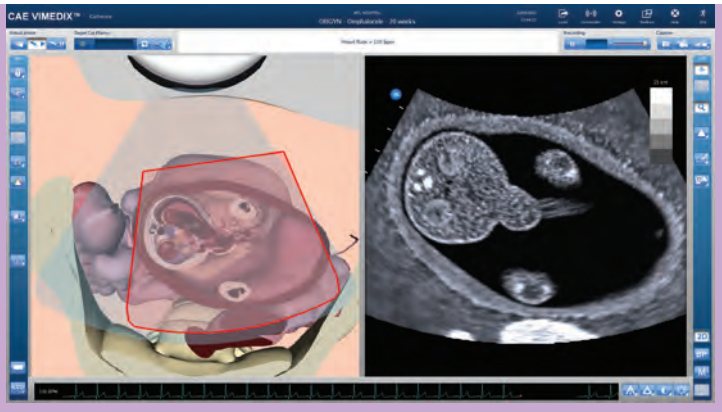
Vimedix™ Ob/Gyn

Practice point-of-care ultrasound assessment with pathologies based on real patient cases

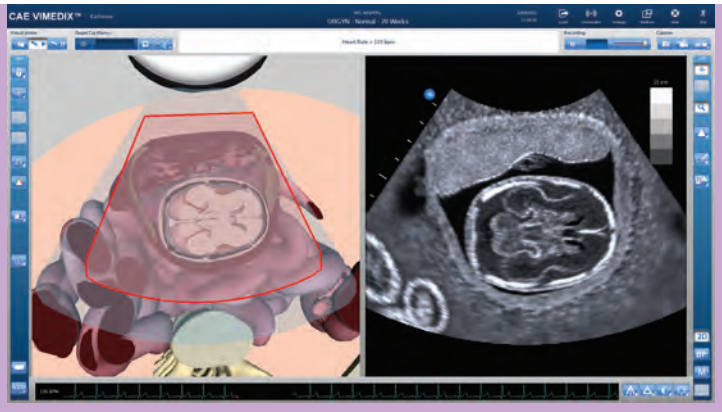
Accelerate the learning process and gain proficiency with Ob/Gyn ultrasound exams

The Vimedix Ob/Gyn ultrasound simulator teaches trainees to perform and interpret ultrasound exams in the first and second trimesters of pregnancy.

- Learn to perform both transabdominal and transvaginal ultrasound exams with a curvilinear and endovaginal probe respectively
- With 3-D augmented reality, learn basic anatomy as well as the relationship between the transducer beam and the ultrasound image
- High-resolution, real-time images of a fetus at 8, 12 and 20 weeks
- Learn on your own with a Virtual Instructor, and compare your obstetrics measurements and calculations to those performed by a clinical expert



Omphalocele



Fetal cranial anatomy

Ultrasound Education and Training

E-learning, on-site seminars, and self-proctored learning

A One-Stop Solution

CAE Healthcare delivers cutting-edge ultrasound education that blends leading simulation technology with world-class instruction and methodologies. Our effective and efficient solutions shorten the path to imaging competency, save institutions time and money, and increase learner retention through the use of innovative techniques and technology.

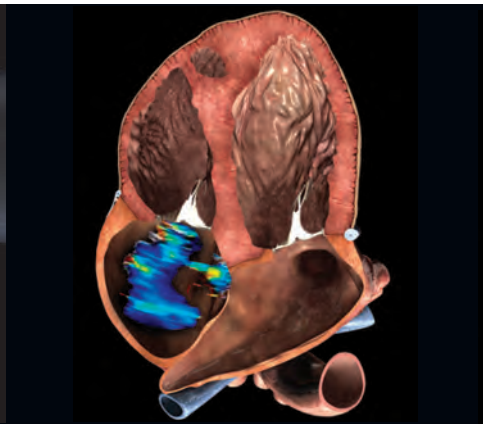
ICCU™ Ultrasound e-Learning

Designed to efficiently and effectively assist users in the adoption of ultrasound, ICCU is an interactive, e-learning curriculum for ultrasound exams and procedures, including the Focused Cardiac Ultrasound Exam (FOCUS), ultrasound-guided central venous access, thoracentesis, paracentesis, and the assessment of blood vessels, pleural spaces and lungs. In addition to web-based curriculum, ICCU offers an online collaborative learning center, on-site training seminars and a FOCUS exam pocket guide for the iPhone or iPad.

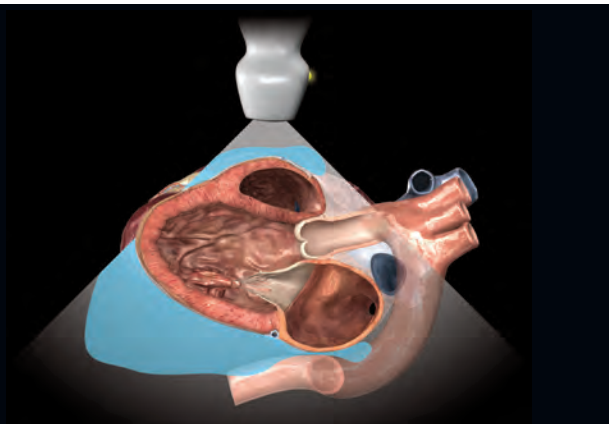
The ICCU e-learning curriculum is designed to conform to international ultrasound training guidelines. It is endorsed by the American College of Chest Physicians (ACCP), the American Society of Echocardiography (ASE) and the Canadian Critical Care Society (CCCS).

The e-learning courses are recognized for CME credits by the University of Montreal, the Royal College of Physicians and Surgeons of Canada and the AMA (American Medical Association).

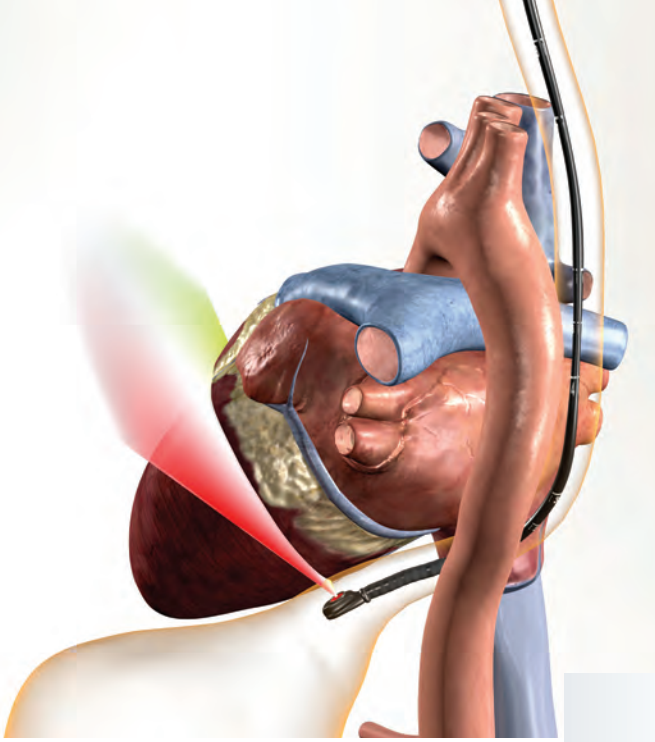
360º perspective



4-chamber view with tricuspid regurgitation



ICCU circumferential effusion

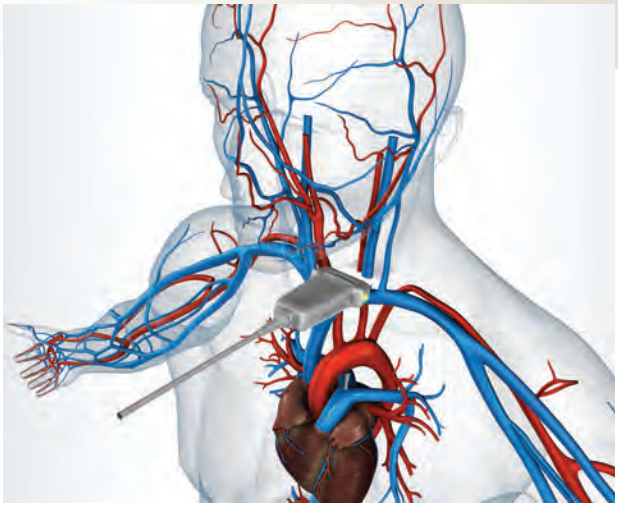


- Highly clinical, interactive seminars
- 1:4 faculty to attendee ratio
- Simulation-based format with Vimedix ultrasound simulator
- Real case scenarios with acute and chronic pathologies
- Unique metrics system to track progress
- Earn CMEs for both e-learning and live seminars

To schedule an onsite seminar, contact CAE Healthcare at 1-888-866-4228 (North America), or +1 514-341-2000 ext. 6521 or imaging@cae.com

Faculty-Led Ultrasound Training Seminars

CAE Healthcare partners with renowned educational and healthcare institutions worldwide to deliver ultrasound training seminars. The didactic and hands-on seminars are designed for physicians, advanced practitioners, nurses and technologists in multiple disciplines, including intensivists, emergency medicine, anesthesiology, surgery and cardiology. The highly interactive seminars are preceded by immersion in our ICCU e-learning program to prepare for the hands-on sessions led by a world-class faculty. The seminars are recognized for CME credits by the University of Montreal, the Royal College of Physicians and Surgeons of Canada and the American Medical Association. All seminars include practice with phantoms, live models and Vimedix ultrasound simulators.

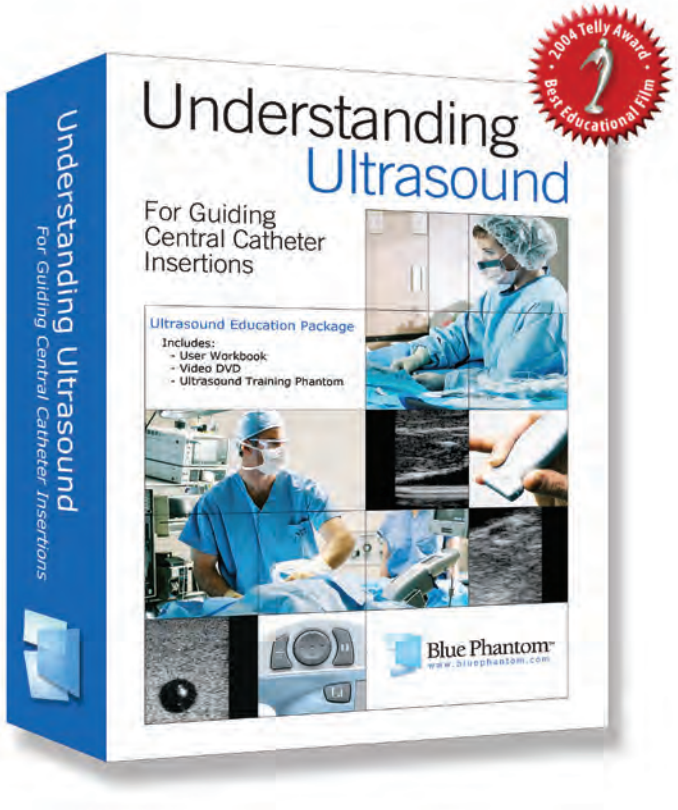


Learn more at caeiccu.com

Blue Phantom Self-Directed Education Packages

Blue Phantom's award winning ultrasound education packages are designed as highly effective education packages to guide users with little or no experience in ultrasound-guided procedures to a high level of understanding. Each education package includes a curriculum book, a DVD and a hands-on Blue Phantom training model.

Learn more about "Understanding Ultrasound for Guiding Central Catheter Insertions" and "Understanding Ultrasound for Guiding Peripherally Inserted Central Lines" at bluephantom.com



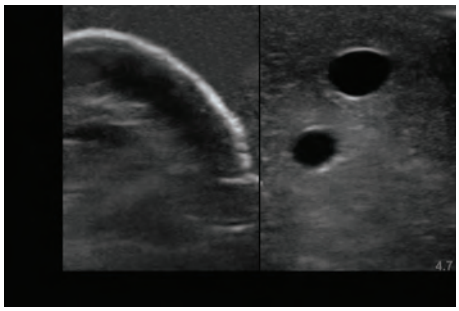
Blue Phantom™ Ultrasound Training

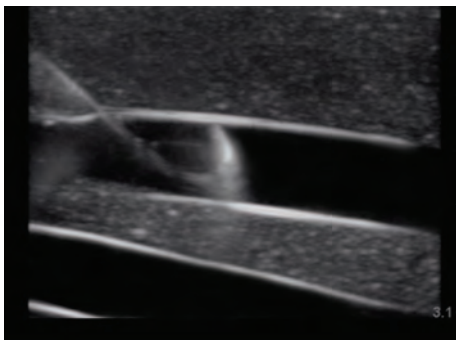
Blue Phantom™ is the leader in ultrasound training models for more than 20 medical specialties. Blue Phantoms provide users with the highest quality training models for diagnostic imaging training and ultrasound-guided procedures. The broad portfolio of products includes central venous access, ob/gyn, regional anesthesia, lumbar puncture and spinal epidural, scrotal, paracentesis, thoracentesis, and pediatric trainers. Constructed with patented SimulexUS™ tissue, the hands-on training models are highly durable and accurately replicate human tissue imaging characteristics. Utilize your own ultrasound system for simulation and risk-free training.

Ultrasound Central Line Training Model

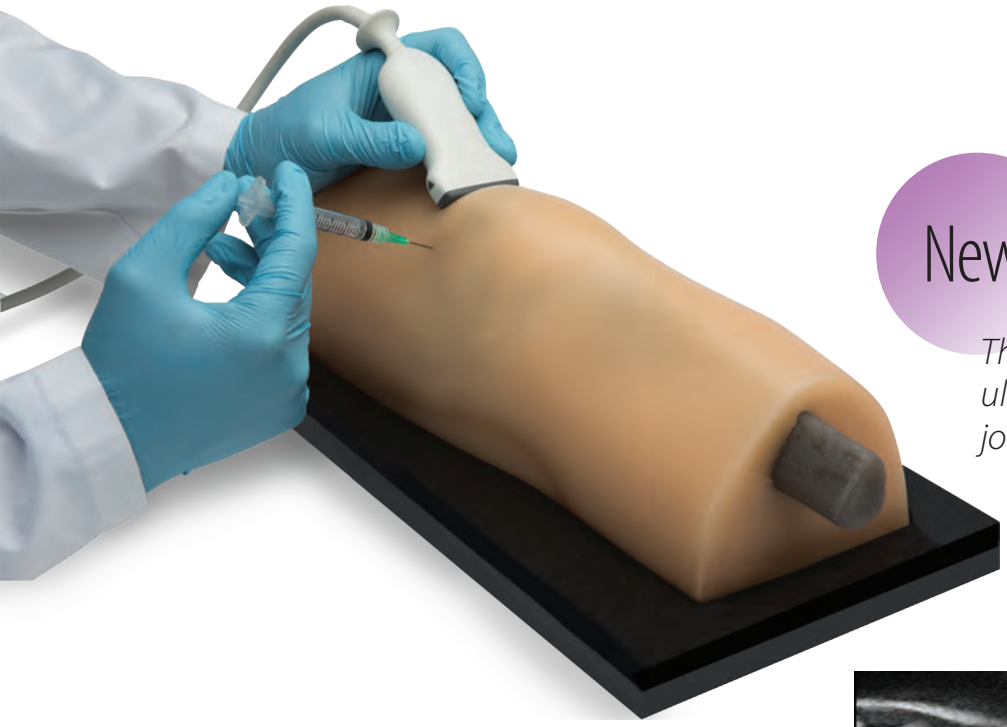
This ultra-durable ultrasound simulator incorporates all of the anatomy required to teach, learn and practice the skills associated with central line placement and was designed for both ultrasound guided and blind insertion procedural training. The self-healing tissue withstands repeated use, minimizing the need for replacement parts.

- Superb image quality from real ultrasound machines
- Anatomically correct; constructed from a digital human file
- Simulated superior vena cava, right atrium and right ventricle offers users the ability to fully thread guidewires and catheters without resistance
- Also available with brachial plexus option for regional anesthesia training





Learn more at bluephantom.com



New!

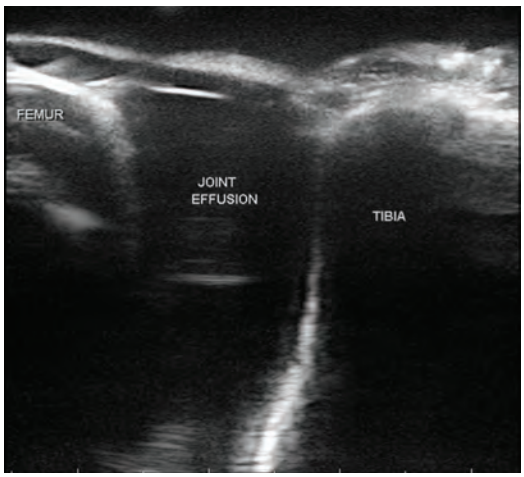
The world's first musculoskeletal ultrasound training model for joint injections of the knee

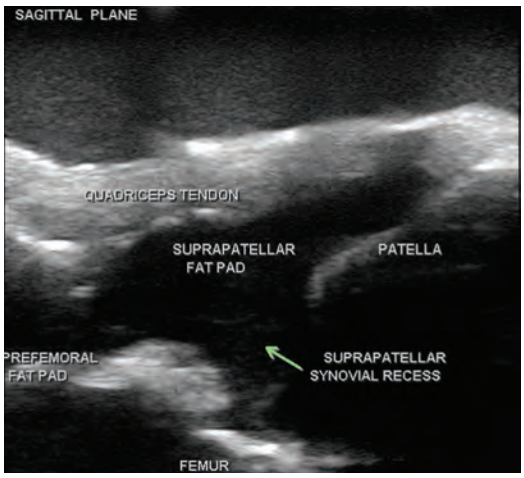
Musculoskeletal (MSK) Ultrasound Training Model

Adoption of MSK ultrasound-guided knee injection has increased dramatically in recent years. Studies have shown that ultrasound-guided knee injections are 60% more effective than blind injections administered into the knee by a doctor. With the Blue Phantom MSK Knee model, gain competence in ultrasound-guided joint injection of the knee before ever performing the procedure on a human patient.

This model contains the distal femur, proximal tibia and fibula, patella, quadriceps tendon, femoral fat pad, quadriceps fat pad, bursa and the joint capsule.

All of the anatomy allows for you to accurately practice the lateral mid-patellar approach for ultrasound guided knee injection.





Read a case study about the use of Blue Phantom models at Loma Linda University School of Medicine Medical Simulation Center at bluephantom.com

"I find Blue Phantom simulators to be especially effective for training procedural guidance."

— Vi Dinh, MD, Director of Ultrasound in Medical Education, Loma Linda University

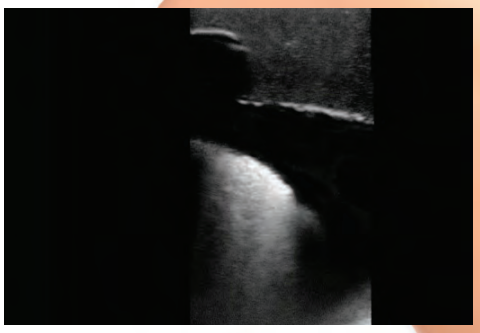
Midscapular Thoracentesis Ultrasound Training Models

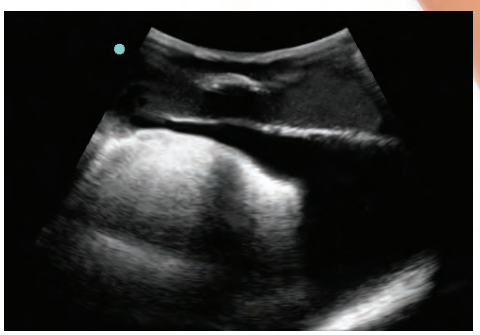
This hands-on training model for ultrasound-guided thoracentesis procedures allows users to gain experience and confidence identifying and guiding needle and small gauge catheter insertions in patients with pleural effusions. The ultra-durable, self-healing tissue offers a long life, providing a low cost of ownership.

- Excellent imaging characteristics using any ultrasound imaging system
- Extremely realistic: model contains structures including the chest wall superficial tissue, 6th, 7th, 8th, and 9th ribs and intercostal spaces, pleural cavity with lung and atelectatic lung, diaphragm, and superior aspect of the spleen
- Users learn to avoid accessory structures such as the spleen, diaphragm and lung
- Positive fluid flow offers users immediate feedback when pleural effusion fluid is accurately accessed

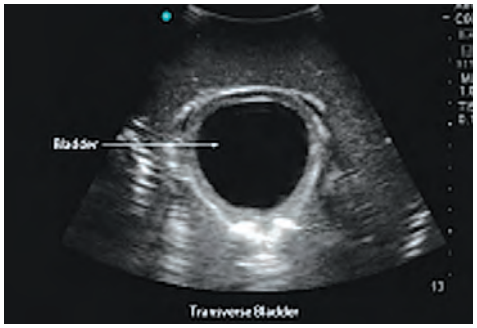
"I am impressed with the durability of the task trainers. Compounded by the company's sincere interest in improving their products, we will be a repeat customer."

— Joshua D. Lenchus, DO, RPh, FACP, Assistant Professor of Clinical Medicine Div. of Hospital Medicine, Dept. of Medicine, University of Miami Miller School of Medicine





Learn more at bluephantom.com



FAST Exam Ultrasound Training Model

This extremely life-like training manikin interacts with real ultrasound systems for practice of the Focused Assessment with Sonography for Trauma (FAST) exam as well as Transthoracic Echocardiography (TTE) and pericardiocentesis procedures. The FAST model accurately mimics the imaging characteristics of human tissue, allowing users to encounter the imaging challenges found in human patients.

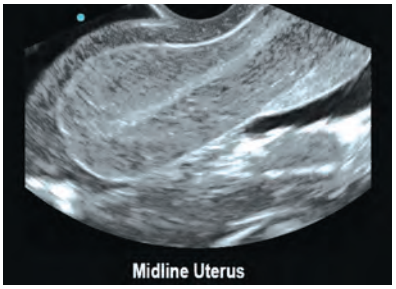
- Adjustable internal bleeding states around the liver, spleen, heart, and bladder simulate a wide range of pathological scenarios
- Fully imageable upper and lower torso contains the liver, gallbladder, kidneys, spleen, heart, pericardial fluid, lungs, ribs, bowel, bladder, stomach, and skeleton
- Users experience imaging challenges found in human patients, such as applying adequate transducer pressure to obtain images, bowel gas and intercostal access

Transvaginal Ultrasound Training Model

The Blue Phantom transvaginal ultrasound training phantom offers users an excellent training platform for learning endovaginal ultrasound procedures using their own ultrasound system. Practice image acquisition, interpretation, and the psychomotor skills necessary to perform transvaginal ultrasound exams while learning to identify normal pelvic structures and pathologies.

- Accurately mimics the feel and imaging characteristics of an actual endovaginal ultrasound exam
- Train where you want, when you want without risks associated with using live patients
- Excellent for validating clinical competency
- Available pathologies include ectopic pregnancy, intrauterine pregnancy, combination intrauterine/ectopic pregnancy and general pathology

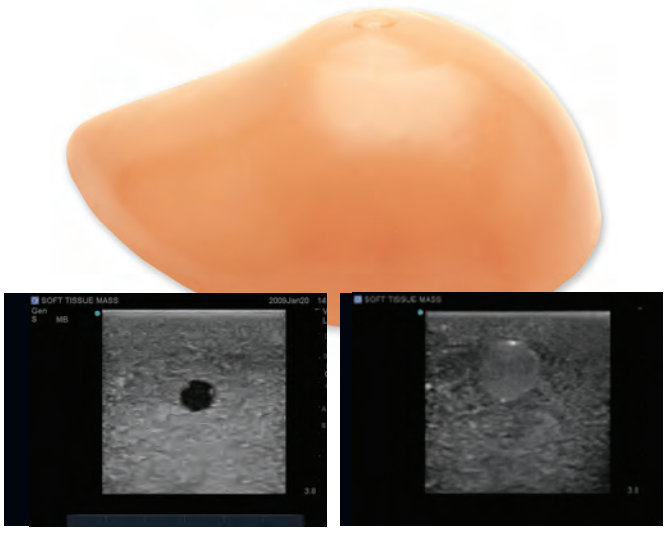
Left Ovary With Follicles & Mass



Midline Uterus

"We have three endovaginal phantoms, all with different findings. The first benefit that we see for our students is just taking the fear away from doing this procedure. Since the image orientation is different when performing endovaginal sonograms, the use of the phantoms initially is not only beneficial for the students, but also the patients."

— Charlotte Henningsen, MS, RT(R), RDMS, RVT, FSDMS, Chair & Professor - Sonography Department, Florida Hospital College of Health Sciences



Breast Biopsy Ultrasound Training Model

The breast biopsy model allows users to develop the imaging and procedural skills needed to perform ultrasound-guided fine needle biopsy. The patented SimulexUS™ tissue is extremely durable for repeated practice of needle procedures. Developed for use with real ultrasound systems, the model images like a real tissue with exceptional image quality.

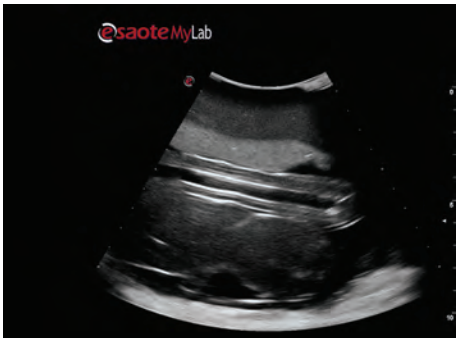
- Models self-seal and will not decompose or dehydrate over time
- Contains a variety of masses that are hyperechoic, hypoechoic, and echo lucent allowing users to gain experience utilizing a wide range of lesions
- 14 masses of varying sizes (4mm to 11mm) allow users to develop their skills starting with larger lesions and target smaller masses as their skills progress
- Masses present in both the central breast tissue as well as the Tail of Spence
- Fluid can be injected into the model to verify needle tip location (automatically expelled)
- Elastography Ultrasound Breast Exam trainer also available

Learn more at bluephantom.com

Amniocentesis Ultrasound Training Model

The amniocentesis training model offers clinicians an exceptional platform for developing and validating skills associated with ultrasound-guided amniocentesis procedures. With realistic anatomy and adjustable fluid levels, this model allows users to practice image acquisition, interpretation and psychomotor skills. Also available in fetal umbilical cord sampling configuration.

- Realistic pelvic anatomy including a gravid uterus with an 18-week fetus, umbilical cord with both fetal and placental cord insertions, placenta, cervix and a variety of fluid pockets
- Externally accurate fetal anatomy allowing for 3-D ultrasound training
- Superb ultrasound imaging characteristics
- Ultra-durable design ensures repeatable results over thousands of uses



Percutaneous umbilical cord sampling

Amniocentesis

CAE Blue Phantom offers a wide range of ultrasound training models covering many different medical specialties. Visit bluephantom.com for details

- Abscess Drainage
- Abdominal Aortic Ultrasound
- Breast Elastography
- Femoral Regional Anesthesia and Vascular Access
- Foreign Body Identification
- Internal Jugular Central Line
- Paracentesis
- Pediatric 4 Vessel Training Block
- Peripheral Doppler
- PICC Vascular Access
- Regional Anesthesia
- Renal Biopsy
- Sclerotherapy
- Scrotal Ultrasound
- TAP Block
- Thoracentesis and Thoracostomy
- Thyroid Biopsy
- Transesophageal Echocardiography
- Transthoracic Echocardiography
- Transvaginal with IUP or Ectopic Pregnancy
- Transvaginal Sonohysterography and Sonoalphingography

Coming Soon!

Generation II ultrasound guided PICC/IV and arterial arm
Generation II ultrasound guided femoral vascular access

IMMERSIVE LEARNING FOR LAPAROSCOPIC SURGERY

CAE Healthcare's laparoscopic surgical simulators offer a realistic environment for practicing minimally invasive procedures without risk to patients. The comprehensive metrics deliver an objective and quantifiable means to assess knowledge, judgment and manual skills.

Virtual training promotes confidence

Simulation has become an essential part of training for laparoscopic, endovascular and Ob/Gyn procedures as it offers measurable improvement in skills. CAE Healthcare's interventional simulators allow learners to assimilate didactic content while practicing psychomotor skills associated with laparoscopic procedures. The haptic technology provides accurate visual, audio and tactile force feedback responses. The user-friendly interface is easy to configure and saves time for instructors.

Learn more at caehealthcare.com

LapVR™

Perform basic to complex laparoscopic procedures while developing surgical decision-making skills

The LapVR simulator realistically reproduces laparoscopic procedures with accurate haptic technology for practice of suturing, knot-tying and loop ligation as well as general surgery and Ob/Gyn procedures. With real patient training cases, LapVR offers ease-of-use for instructors and detailed performance metrics for evaluation.

Modules

Essential Skills Module
Lap Cholecystectomy Module
Running the Bowel Module
Ob/Gyn Module
Suturing and Knot-Tying Module
Optional Appendectomy Module

"The essential skills and procedures in the LapVR system provide valuable training for surgical students and help prepare them for laparoscopic surgery." — *Dr. Aurora D. Pryor, Professor and Chief of General Surgery, Stony Brook Medicine*

EndoVR™

Realistic tactile and physiological feedback for gastrointestinal and bronchial endoscopy

With realistic haptic technology, EndoVR allows learners to "get a feel" for both gastrointestinal and bronchial assessment. The system exposes learners to a wide range of anatomies and pathologies so they can quickly increase confidence and comfort. EndoVR supports three learning environments on one platform, including bronchoscopic, upper gastrointestinal tract (GI) and lower gastrointestinal tract (GI) procedures. Faculty can upload their own multimedia didactic content and learners are debriefed after each case with evidence-based performance metrics.

Modules
Bronchoscopy Package
EBUS-TBNA Package
GI Package

"The design of these surgical simulators has impressively succeeded in expressing robustness, simplicity and durability."
— *2013 Red Dot Design Award Jury*

CathLabVR™

Risk-free practice of cardiac and peripheral vascular procedures

CathLabVR offers best-in-class and true-to-life tactile sensations of the forces encountered when manipulating wires, catheters, balloons and stents within a patient. Learners are able to practice accessing and navigating diverse anatomies with cardiac and vascular abnormalities. The repetitive practice and challenging cases allow learners to develop skills and confidence in a risk-free environment.

Standard Software Modules

Basic and Advanced Percutaneous Coronary Interventions (PCI)
Carotids
Transcatheter Aortic Valve Implantation (TAVI)
Cardiac Rhythm Management

THE FUTURE OF NEUROSURGICAL TRAINING

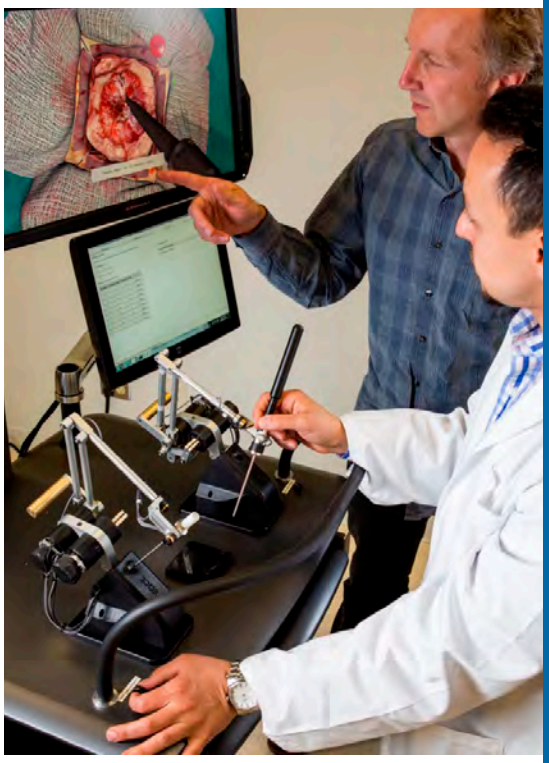
Today's neurosurgery residents face time restrictions in acquiring technical skills and proficiencies before they operate on real patients. Practicing neurosurgeons are challenged to master new techniques. NeuroVR allows self-directed practice in a risk-free environment, resulting in reduced medical errors and better patient outcomes.

Offered in partnership with the National Research Council Canada

In 2008, the National Research Council of Canada initiated the NeuroTouch—now known as NeuroVR—research project in collaboration with teaching hospitals throughout Canada. A growing number of early adopters have validated training scenarios and published validation studies. In 2016, CAE Healthcare partnered with the NRC to become the exclusive worldwide distributor for NeuroVR.

"NeuroTouch (now NeuroVR) approximates a true OR setting better than any other system now in use." —*The Comprehensive Textbook of Healthcare Simulation by editors Levine, DeMaria, Schwartz and Sim*

NeuroVR™ The world's most advanced virtual reality neurosurgery simulator



With NeuroVR, both residents and surgeons can practice open cranial and endoscopic brain surgery skills and procedures in a validated training environment. NeuroVR simulates open neurosurgical procedures and captures objective metrics on technique, performance, and completion time.

Extensive range of exercises derived from actual patient images
User-friendly graphical interface with touchscreen
Switch between stereoscopic microscope view and 2-D indirect endoscopic view
Realistic scope lens blurring and rinsing
Immediate and cumulative metrics to track proficiency goals
Performance feedback includes procedure duration, errors and instrument force

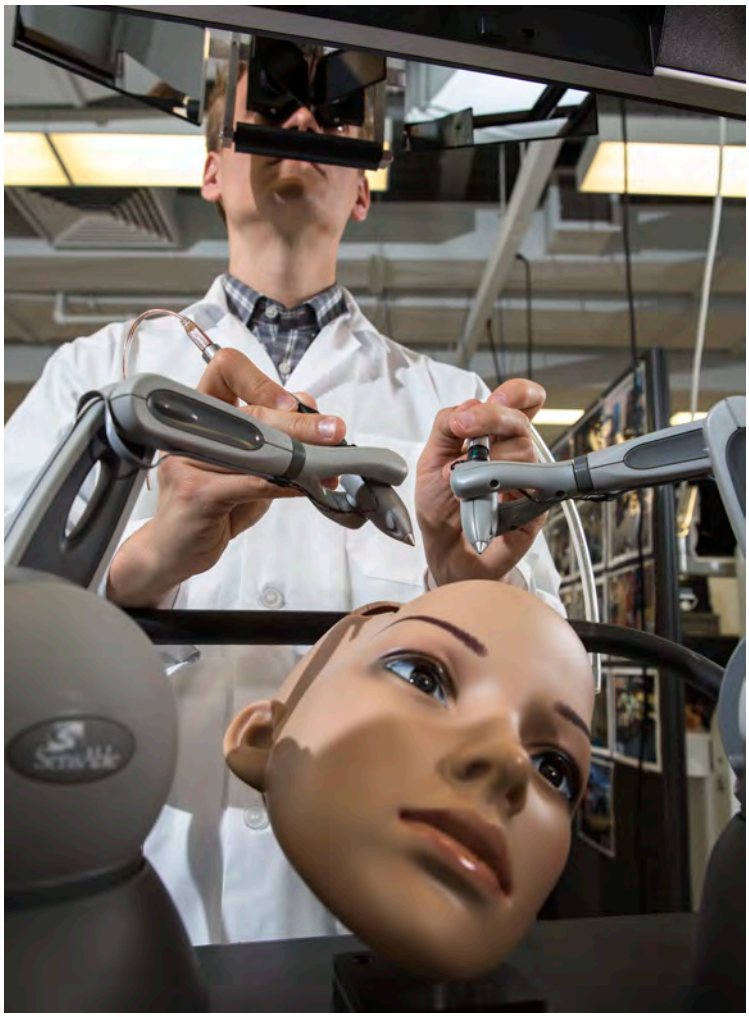
Modules

Instrument handling
Suction
Ultrasonic Aspirator
Bipolar Forceps
Microscissors

Fundamental skills
Burr Hole Selection
Endoscopic Ventricular Landmarks
Endoscopic Ventricular Test
Endoscopic Nasal Navigation
Nasal Debridement
Hemostasis (3 cases)
Tumor Debulking (4 cases)
Tumor Resection (2 cases)
Fiber Exposure and Cutting
Aneurysm Exposure

Endoscopic surgery
Sphenoid Ostium Drilling
Ethmoidectomy
ETV Floor Perforation

Microsurgery
Meningioma (3 cases)
Glioma



"To my knowledge, in the world, there is nothing close to this neurosurgery simulator."
—Rolando Del Maestro, MD
Neurosurgical Simulation Research and Training Centre, McGill University

Learn more at caehealthcare.com

VirtaMed

State-of-the-art simulation for multiple surgical procedures on one platform

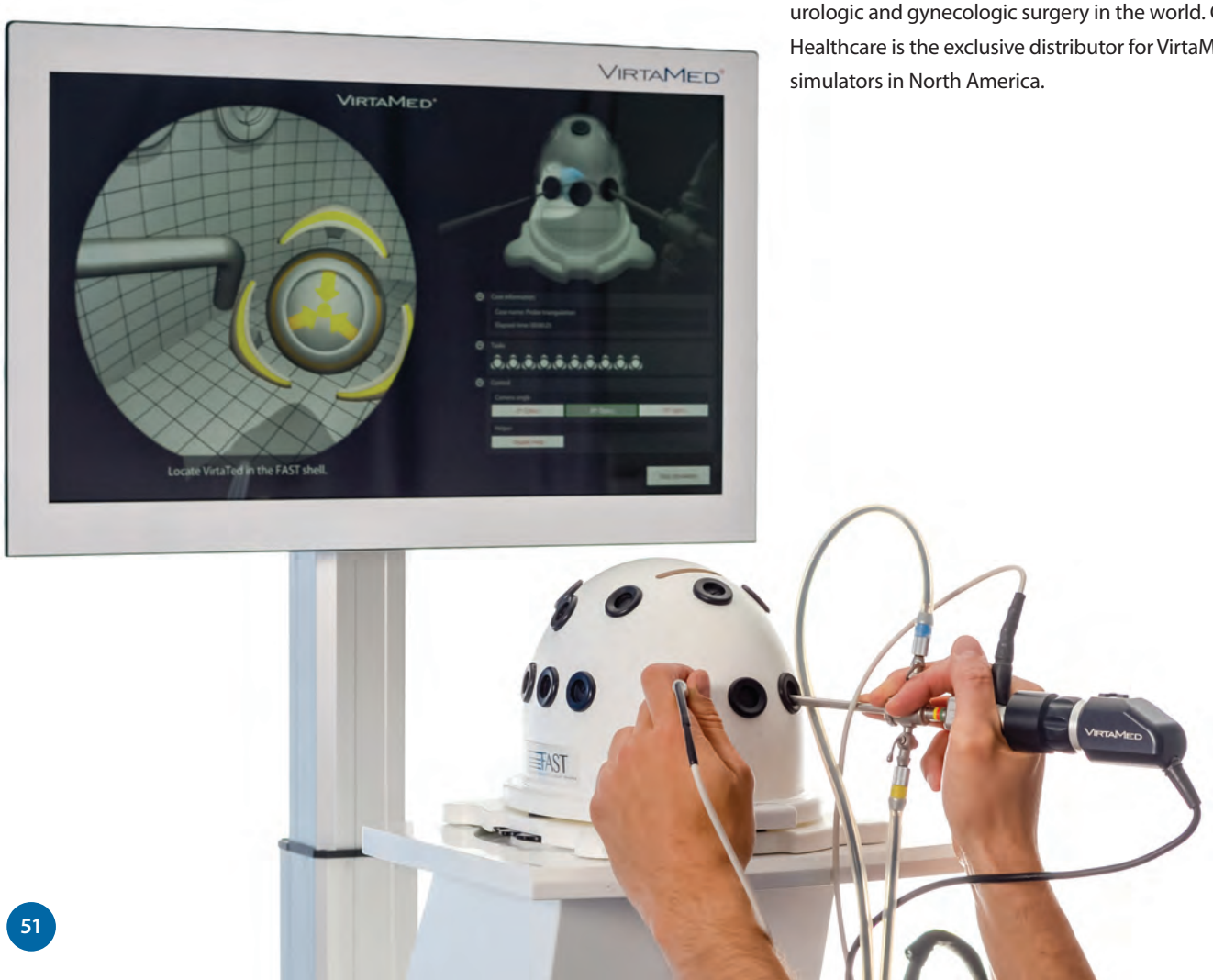
VirtaMed's Swiss-engineered simulators deliver a virtual training experience for surgeries that shortens the learning curve, enhances preparation and reduces costs. The simulators combine highly realistic graphics, bleeding, and fluid behavior with anatomic models to provide the best tactile feedback possible. Learners practice with original surgical instruments, which eases the transfer of skills to the operating room.

VirtaMed offers one platform for a growing number of disciplines. With multiple pathologies, VirtaMed simulators have been designed to cover 95% of the variability of cases in real life, which would take years of practice without simulation. The addition of complications training prepares the learner for challenges such as poor viewing conditions or intense bleeding without putting patients at risk.

All VirtaMed modules deliver objective performance metrics, which include time taken, movements with the instruments, landmarks visualized or pathologies resected. Each training session is stored on video to track learner progress and for debrief.

About VirtaMed

VirtaMed is a Swiss-based company that produces the most realistic training environment for arthroscopic, urologic and gynecologic surgery in the world. CAE Healthcare is the exclusive distributor for VirtaMed simulators in North America.



VirtaMed ArthroS™

The most realistic simulation training environment for knee and shoulder arthroscopic surgery

Orthopedic surgery requires an intensive hands-on and didactic program, especially for the very specific skills needed to master arthroscopic surgery. With the VirtaMed ArthroS, trainees use original medical instruments, which facilitates the transfer of skills to the OR. Training cases include diagnostic and therapeutic arthroscopy for both the knee and shoulder.

The VirtaMed ArthroS FAST module is the only simulator that meets the current American Board of Orthopedic Surgery (ABOS) simulation mandate for residency programs.

Modules

- Fundamentals of Arthroscopic Surgery
- Arthroscopy Basic Skills
- Diagnostic Arthroscopy
- Surgical Knee and Shoulder Arthroscopy
- ACL Reconstruction Module

Coming Soon!
Hip Module

The VirtaMed ArthroS is available with the knee model, the shoulder model, the FAST workstation, or all three

"The ability of the simulator to show a large number of different pathologies, to identify and document them makes the VirtaMed ArthroS unique relative to training on conventional models but also to training in the operating room or on cadavers where this high number of variability is not present."

— Prof. Dr. Robert T. Burks, MD,
Orthopedic Surgery Dept.
Utah University, USA

CAE Healthcare is the exclusive distributor for VirtaMed simulators in the U.S. and Canada

VirtaMed PelvicSim™

The most realistic virtual reality simulator for IUD insertion and embryo transfer

VirtaMed PelvicSim provides gynecology training in a virtual environment with no risk to live patients. Trainees can use original instruments such as a speculum and manipulate the flexion of the uterus with tenaculum forceps. They can practice placing various intra-uterine devices (IUDs) in anteverted or retroverted uteri, along with nulliparous or parous patient cases. The SimProctor™ shows ghost tools with correct movements, and a unique patient comfort scale gives doctors feedback on how the patient feels.

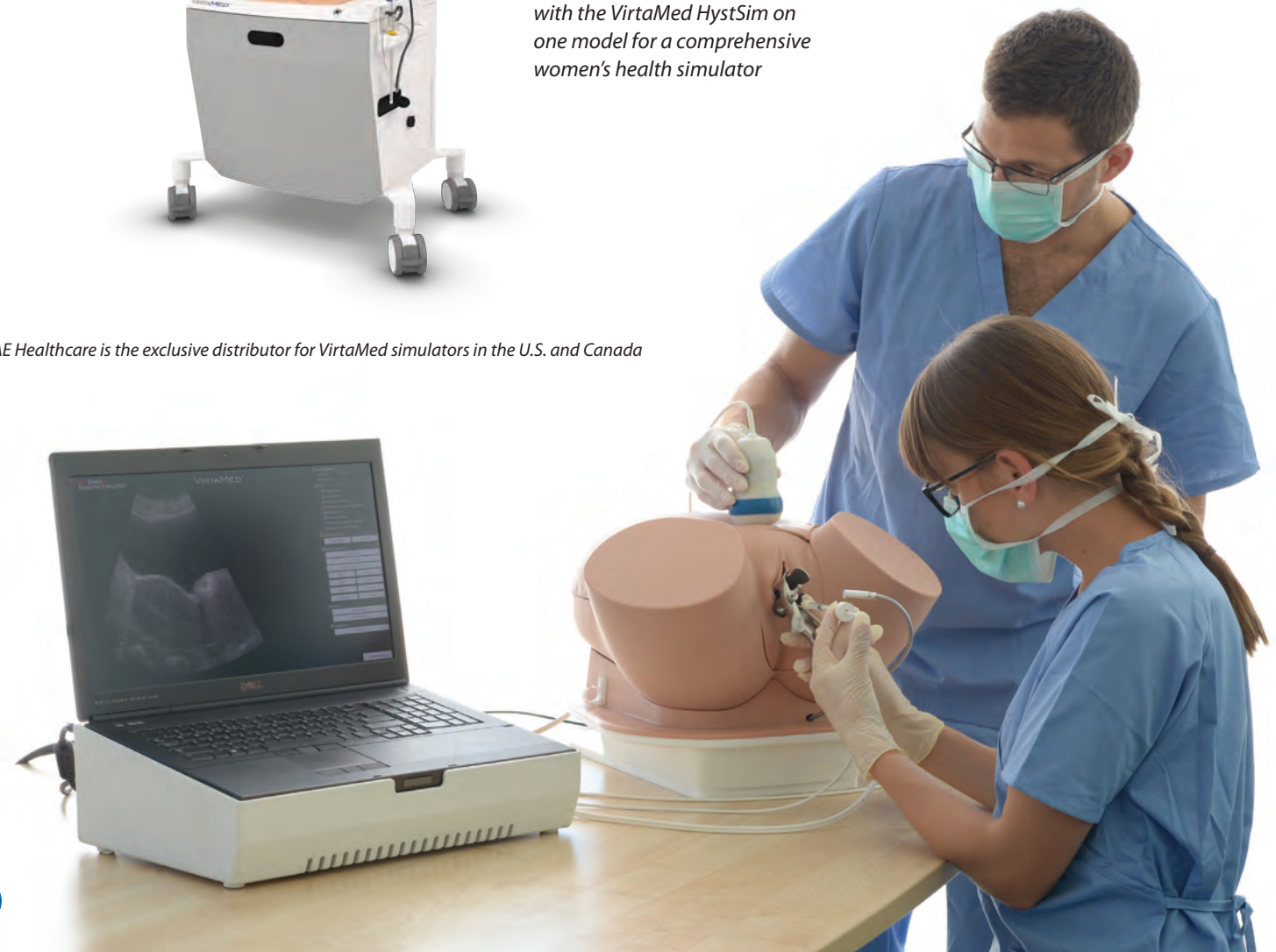
New!
Embryo Transfer Module

Developed in collaboration with the American Society for Reproductive Medicine (ASRM), the new ASRM Embryo Transfer Module uses authentic tools, real ultrasound images from actual patients and four different anatomies.

Modules
- Uterine Sounding
- IUD Placement
- ASRM Embryo Transfer

Combine the VirtaMed PelvicSim with the VirtaMed HystSim on one model for a comprehensive women's health simulator

CAE Healthcare is the exclusive distributor for VirtaMed simulators in the U.S. and Canada



Watch the video at caehealthcare.com

VirtaMed HystSim™

Effective, validated training for hysteroscopic procedures without risk to patients

After completing the diagnostic and therapeutic endoscopy training on VirtaMed HystSim, residents know how to take a proper biopsy, how to remove polyps with scissors or a grasper, and how to handle challenging cases, including, but not limited to, a fundal septum, multiple and submucosal fibroids, and intensive bleeding.

Modules
- Essential Hysteroscopy Skills
- Hysteroscopy Diagnostics and Therapeutic Treatments
- Advanced Resection
- Essure®

"Training for hysteroscopy is very challenging on live patients. Skills training in residency is limited. A hysteroscopic simulator is the best way to really train residents and practicing physicians in procedures. This particular hysteroscopic trainer is an excellent device for training for polypectomy and myomectomy."

— Dr. Robert K. Zurawin, MD, Director fellowship program gyn. MIS, USA

VirtaMed UroSim™

Hands-on urologic surgery with highly realistic tactile feedback

VirtaMed UroSim provides simulation training for TURP, TURB, laser BPH with Thulium or HoLEP, and morcellation. During the training, urologists learn how to master instruments and manage complications without involving live patients. Didactic content and expert movies exemplify best techniques. Individual courses allow for personalized urologic surgery training.

Modules
- TURP (including basic skills and full procedure)
- TURB
- BPH Laser
- Morcellation

Surgical Cut Suits and Trauma Training Models

CAE Healthcare is the worldwide distributor for Strategic Operations Cut Suits and trauma training models. Developed by Hollywood special effects professionals and military veterans in collaboration with healthcare advisors, the Hyper-Realistic™ products are designed to prepare the military, law enforcement and clinicians for the acute stress and sensory challenges of responding to battlefield injuries or multi-casualty disasters.

Surgical Cut Suit

The Surgical Cut Suit simulates the look, feel and smell of severe traumatic events, allowing medical providers to practice real procedures from point of injury and treatment en route to transition of care and surgical intervention. The Surgical Cut Suit has interchangeable organs for practice of hemorrhage control and suturing of gross organ structures. It provides training preparation for laparotomy, thoracotomy and thoracic and abdominal exploration.

Emergency Medical Services/ Tactical Combat Casualty Care (EMS/TCCC) Cut Suit

The EMS/TCCC Cut Suit was designed to prepare medical providers to treat the three most common causes of death on the battlefield: uncontrolled hemorrhaging, airway compromise and tension pneumothorax. To enhance realism, the EMS/TCCC Cut Suit has a more streamlined frame and is lighter in weight than the Surgical Cut Suit.

Cut Suit Features

Common procedures include hemorrhage control by tourniquet, ligation/clamping and compression; surgical cricothyroidotomy; needle thoracentesis; chest tube thoracotomy; suturing and stapling of skin and peripheral IV access.

- User-customizable with interchangeable organs, wounds and wound patterns
- Can be worn by a human actor for live interaction or zipped around a manikin
- User-repairable for repeated procedures

Blast Trousers

Blast trousers prepare medical providers to respond to blast wounds above the knees with uncontrolled hemorrhaging that cannot be treated with a tourniquet and require junctional tourniquet, clamping and packing.

Blood Pumping System

With the addition of a blood pumping system, facilitators can simulate arterial and venous hemorrhaging and up to four simultaneous bleeds.

6-in-1 Trainer

The 6-in-1 Trainer combines multiple task trainers within one unit to maximize training value. The body, neck skin and tracheas are user-repairable, and the intraosseous pucks are user-replaceable for added economy.

- Nasopharyngeal Airway (NPA) adjunct insertion
- Clearing upper airway of obstructions
- Surgical airway procedures
- Chest needle thoracentesis
- Sternal intraosseous catheter insertion
- Proximal humerus intraosseous catheter insertion

RECORD, REVIEW AND ASSESS PERFORMANCE IN SIMULATION SCENARIOS OR CLINICAL EVENTS

CAE Healthcare offers the most robust and adaptable platforms for managing audiovisual recording, debriefing, and professional assessment in both simulated and clinical settings. As the leading provider of audiovisual systems for healthcare learning, CAE Healthcare delivers proven solutions with the added value of expert guidance and support.

Essential solutions for improving healthcare learning and patient safety

A high-quality debriefing session following a simulated emergency scenario or clinical event is known to improve learning and retention. In any high-stakes scenario, participants may not remember all of their behaviors, decisions and interactions. Today, most simulation programs record scenarios to enhance debriefing and improve performance assessment. The use of audiovisual (AV) solutions is growing in clinical settings as well.

CAE Healthcare's AV solutions, Replay and LearningSpace, capture audio and video as well as physiological data including event logs, trend charts, waveform displays and annotations. During a debriefing session, participants can view their actions and interactions with the benefit of rich patient data and an instructor's play-by-play critique.

Both Replay and LearningSpace are web-based, scalable and accessible from anywhere. While Replay is a streamlined system for recording and debriefing, LearningSpace provides additional management tools, such as scheduling, reporting and learner assessment. The Resource Manager feature allows simulation center managers to track all of their assets, standardized patient hours and usage for real-time reporting.

CAE Healthcare's audiovisual support team offers consultation and expertise from initial center design through full integration of an AV system. The development team is committed to continuous improvement of the end-user experience, and releases new features and updates several times each year.

New!

CAE LearningSpace™ Intuity

A powerful center management solution reimagined to enhance efficiency and productivity

LearningSpace is CAE Healthcare's comprehensive audiovisual and center management platform, designed to capture clinical and learning events for review, debrief and assessment. With the Intuity release, LearningSpace offers an enriched end user experience, easier integration with mobile devices and more flexibility for center managers.

Learn more at caelearningspace.com

Capture and Review

- Digital SD or HD cameras provide superior video quality and pan-tilt-zoom options
- High-quality audio capture with dedicated, in-room microphone and digital audio encoders
- Captures patient data and monitoring for integrated review
- Allows access of up to 25 room views on one screen
- Observe and annotate live recording in any room from any computer
- Advanced search capability of recording library

Manage and Control

- Resource manager tracks inventory, standardized patient hours, equipment usage and more
- Secure data entry and user authentication ensures privacy
- Intelligent automated scheduling and comprehensive case management tools
- More than 25 exportable reports for faculty and learners
- Student workflow scheduling for multi-station assessment

Evaluate and Score

- Integration with CAE Healthcare and other simulators
- Recorded events review with patient data for debrief
- Flexible scoring with weighting and bonus points
- Create custom evaluation instruments for learners, cases, SPs
- Evaluate learners or cases with advanced dynamic scoring reports

"For our standardized patient program, we use LearningSpace to create cases, schedule our learners, schedule our standardized patients and capture the audiovisual recording and data. We're able to generate really robust reporting." — *Jacqueline Jordan Spiegel, MS, PA-C, Director of Clinical Skills and Simulation, Midwestern University*

CAE Replay™ A room with an intelligent memory

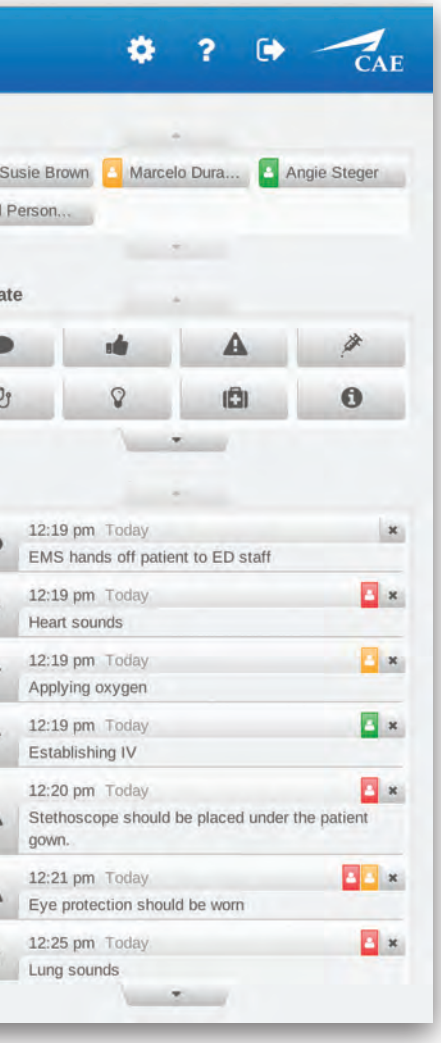
Replay is CAE Healthcare's streamlined solution for audiovisual capture and debrief. Replay's always-on recording system detects activity and captures real-time recordings and data in high-definition video. Replay is scalable from one room to multiple rooms.

Replay was designed with security in mind and protects the privacy of both patients and caregivers through HIPAA-compliant data encryption of all transferred and stored data, strong password management and advanced access monitoring measures.

Replay is uniquely suited to a fast-paced healthcare environment where standards and practices are rapidly evolving. The user-friendly system allows clinical teams to practice new safety protocols and gain instant feedback.

Replay is a software-driven solution to maximize flexibility. One complete package provides all the HD cameras and simplified hardware, cloud backups for all recordings, and expert installation, training and support. From small ultraportable solutions to hundreds of cameras all recording to your unified database, Replay has you covered.

Learn more at caereplay.com



Streamlined recording and debrief

Looking back has never been so straightforward.
Replay is easy to use and includes the features that matter the most for efficient debriefing.

Record video, audio, displays and data—all in HD.
Crystal-clear video and audio from bundled HD cameras and pro microphones.

No need to hit Record. Ever.
Similar to a black box for aviation, Replay is always on so you never miss a minute of action.

Search by anything.
Names, dates, room, physiological data, events and more.

Debrief anytime, anywhere.
Replay is available as a wireless ultraportable solution.

Scalable from 2 to 200 cameras.
Start small and grow big. Or start big.

With three complementary hardware configurations, LearningSpace and Replay are easily installed and scalable to any learning environment

Choose your AVS Configuration

One Room

With video and audio capture built in, CAE Healthcare's One box is rich in features for an accessible price

Compact hardware server console
Built-in display capture
1,000 hours of video storage
Built-in digital audio kit
High-fidelity simulator integration (any brand)
Optical and digital point-tilt-zoom cameras
Data and power for up to four IP cameras

Multi-Room with Connect server

Our multi-room Connect solution links One boxes to create a unified, enterprise-grade system for your simulation center

A single unified system for your simulation center
Scalable from 2 to 200+ rooms
Each Connect server connects up to 6 One boxes
Stores 12,000 hours of video recording

Ultraportable

Record and review anywhere with this wireless battery-powered HD mobile system

Compact rolling case
Laptop with AVS software
Two wireless HD cameras
Six hours of continuous, wireless operation
200 hours of video storage
Display capture for non-CAE simulators

Audiovisual Solutions Team

CAE Healthcare's global audiovisual solutions team delivers best-in-class consulting, installation and support from early planning through implementation

A dedicated customer service team for audiovisual solutions

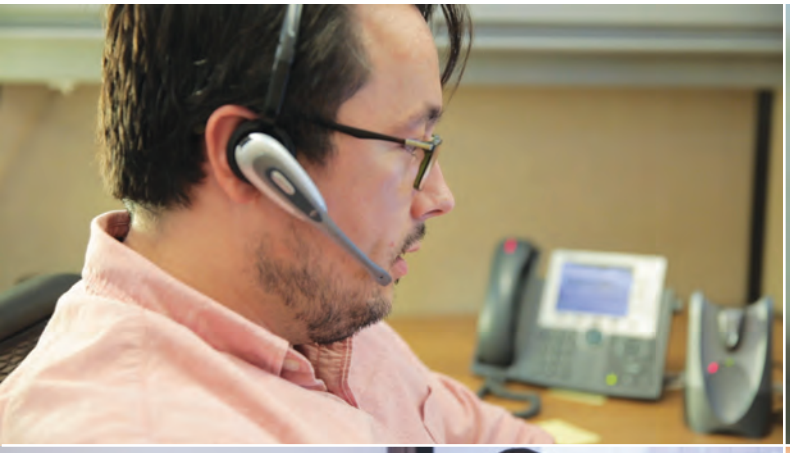
Specialized and experienced technicians

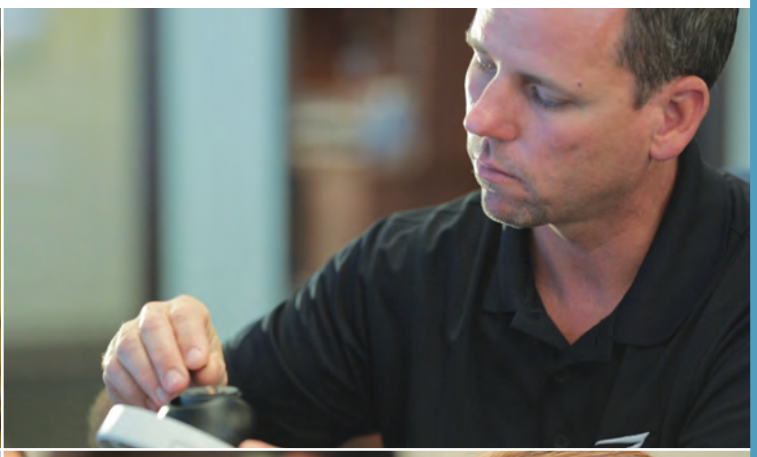
Pre-installation consulting to minimize disruption and ensure smooth delivery

On-call customer support via telephone and email

Online support portal with user guides, tutorials and helpdesk

Free Training for Life™ with a CAE Assurance support and maintenance agreement





"CAE Healthcare guided us through the installation process and advised where cameras, microphones, and servers would best be placed. Their support has been very responsive. As a user, I get what I need and quickly."— Jacqueline Jordan Spiegel, MS, PA-C, Director of Clinical Skills and Simulation, Midwestern University

Learn more at caelearningspace.com

CAE HEALTHCARE ACADEMY > A GLOBAL FOOTPRINT

CAE Healthcare provides exceptional peer-to-peer support to educators as they integrate simulation learning. Our Academy faculty members are trusted partners and mentors who build relationships and share their expertise in many facets of simulation.

Peer-to-peer mentoring for success in healthcare simulation

From Montreal to Mainz and cities in between, CAE Healthcare's Academy delivers peer-to-peer education, training, consulting and on-call support. Our Academy provides consultation on a variety of simulation-based topics including starting a simulation center, developing faculty and debriefing.

The Academy is comprised of registered nurses, surgeons, general practitioners, anesthesiologists, emergency physicians, paramedics, cardiologists and sonographers. A physician who trains surgical residents can expect to be guided by an Academy surgeon, and a nurse educator will learn from a master's prepared nurse.

With diverse experiences and cultural backgrounds, our Academy members adapt training to local customs and needs, and they can converse in English, French, German, Dutch, Hungarian, Spanish, Hindi or Arabic. They are on-call to answer questions about simulator physiology, programming a scenario, facilitating a simulation, debriefing and incorporating best practices in simulation.

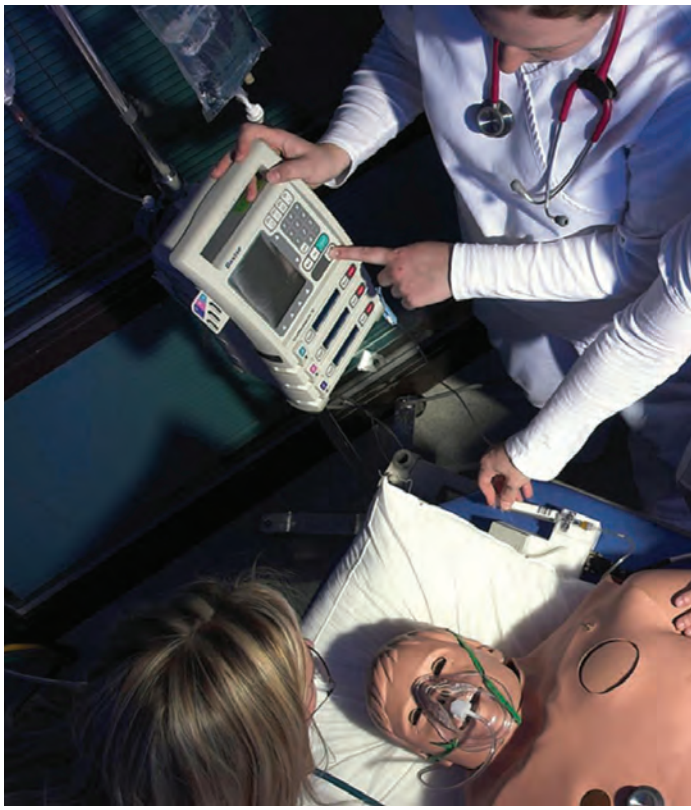
The Academy has developed more than 500 Simulated Clinical Experiences (SCEs) that have been programmed into Müse and validated in collaboration with subject matter experts and professional societies.

With educators based around the world, the CAE Healthcare Academy delivers education at customer sites and in training centers globally.

Academy Services

Helping to improve patient safety and outcomes

The CAE Healthcare Academy is your partner for education, consultation, support and turnkey solutions in your learning environment. Members of the Academy provide ongoing "train the trainer" services for simulation-based education and also offer consulting and professional services to improve the effectiveness and efficiency of healthcare learning environments.



Education Solutions

CAE Healthcare offers healthcare organizations evidence-based, clinical education solutions to help improve patient safety and outcomes

Product Education – Training for Life™ courses, customer onsite courses, educational webinars, product videos, ICCU courses and Essentials of Simulation

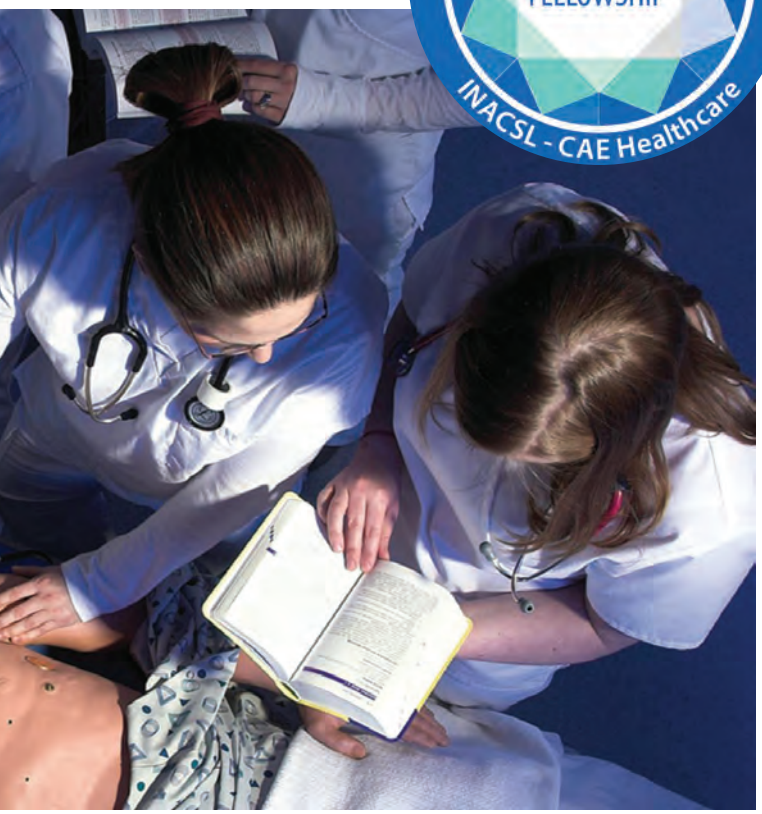
Customer Support – Clinicians available 12 hours per day, Monday through Friday to answer questions regarding physiology, programming, facilitation, best practices and more

Tailored Solutions

CAE Healthcare offers customized professional services and consultation on a variety of simulation-based topics:
Simulation center design/start up
Curriculum integration
Program infrastructure
Faculty development
Debriefing
Short term staffing needs
Customized development of Simulated Clinical Experiences (SCEs)
Sustainability

Ask for a consultation with a member of the CAE Healthcare Academy today. Call or email us at srqaccountmanagers@cae.com

INACSL CAE Healthcare Simulation Fellowship



The first fellowship program based on international best practices in simulation

In 2014, the U.S. National Council of State Boards of Nursing (NCSBN) published a study revealing that simulation can be substituted for up to 50 percent of traditional clinical experiences across the prelicensure nursing curriculum without negative consequences to students. To achieve these results, the NCSBN also identified certain criteria that needed to be incorporated into simulation programs. Those criteria include high quality simulations, debriefing methods grounded in educational theory, trained/dedicated simulation faculty and INACSL Standards of Best Practice: Simulation℠.

The International Nursing Association for Clinical Simulation (INACSL) and the CAE Healthcare Academy partnered to develop the fellowship to assist global participants in meeting the NCSBN requirement of having formal education for simulation through immersive, kinesthetic learning. The fellowship is based upon the INACSL Standards of Best Practice: Simulation℠ and incorporates:

Simulation pedagogy
Educational theory
Facilitation methods and facilitator skills
Debriefing techniques
Evaluation methods
Design, practice and validation of scenario development for high quality simulation

The program includes two hands-on workshops, webinars, discussion groups and mentoring for 4 to 6 months.

Length of course: 8 months

Contact hours: Up to 30

INACSL is an accredited provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation

Sign up for an introductory webinar or register for the program at caehealthcare.com

Learning Modules

The CAE Healthcare Academy's Learning Modules provide an effective solution for quickly and easily integrating human patient simulation into specific curriculums. Each module provides carefully defined Simulated Clinical Experiences (SCEs) designed to immerse learners in the clinical environment and develop critical skills to provide the highest quality of care.

Each evidence-based SCE includes: a synopsis of the appropriate corresponding scenario, patient background, learning objectives and performance meausures, facilitator's notes, equipment and supply list, references, and software application.

Adult Nursing

(Apollo, iStan, HPS, METIman)

Acute Coronary Syndrome and Acute Myocardial Infarction

Acute Respiratory Distress Secondary to Trauma and Post-Anesthesia Pneumonia

Anaphylactic Reaction to Blood Administration

Asthma Adult Home Care

Basic Assessment of the Adult Patient with Asthma

Basic Assessment of the Post-operative Gastrectomy

Bioterrorism

Cardiopulmonary Arrest

Cerebral Vascular Accident

Chest Pain Management of the Medical Surgical Patient

Chest Tube Insertion and General Ongoing Care

Chronic Diabetic

COPD Exacerbation with Respiratory Failure

Diabetic Ketoacidosis

Hypnotic Overdose

Motor Vehicle Collision with Abdominal Injury, Internal Bleeding and Hypovolemic Shock

Postoperative Care of the Patient with a Ruptured Diverticulum

Postoperative Pulmonary Embolism

Pregnant Patient in First Trimester with Electrolyte Imbalance Secondary to Hyperemesis Gravidarum

Preoperative Care of the Patient Scheduled for a Cholecystectomy

Advanced Cardiac Life Support (ACLS)

(Apollo, iStan, HPS, METIman)

In accordance with AHA 2010 guidelines

Acute Coronary Syndrome

Acute Stroke

Asystole

Bradycardia and Heart Blocks

Pulseless Electrical Activity

Pulseless Ventricular Tachycardia and Ventricular Fibrillation

Respiratory Arrest

Supraventricular Tachycardia

Ventricular Fibrillation AED

Ventricular Tachycardia

New module in accordance with AHA 2015 guidelines

Coming Soon!

Airway Management I

(Apollo, iStan, HPS, METIman)

Abdominal Sepsis

Acute Papillary Muscle Rupture

Alcohol Intoxication

Anastomotic Leak

Postoperative Hypoxemia

Severe Community Acquired Pneumonia

Severe COPD Exacerbation

Unplanned Extubation

Developed in partnership with:

CHEST™ AMERICAN COLLEGE of CHEST PHYSICIANS

Cardiopulmonary Critical Situations (CCS)

(Apollo, iStan, HPS, METIman)

Acute Allergic Reaction

Acute Asthma

Burns with Airway Compromise

Heroin Overdose

Inferior-Posterior Myocardial Infarction

Ludwig's Angina

Stab Wound to the Upper Neck

Tricyclic Antidepressant Overdose

Disaster Medical Readiness (DMR)

(Apollo, iStan, HPS, METIman)

Anthrax

Botulism

BZ

CHI with Chest Trauma-Earthquake

CHI with Chest Trauma-IED

Chlorine

Cyanide

Dehydration-Hurricane

Laceration to Arm-Earthquake

Laceration to Arm-Hurricane

Multiple Injuries with Amputation-Earthquake

Multiple Injuries with Amputation-IED

Mustard Lewisite

Pandemic Flu

Phosgene

Pneumonic Plague

Pneumothorax-IED

Radiation Criticality

Radiation Trauma

Sarin

Emergency Medical Services *(Apollo, iStan, HPS, METIman)*

EMS I

- Adult Asthma
- Altered Mental Status/Cardiac Arrest
- Cerebrovascular Accident Brain Attack
- Introduction to Sounds of the Body
- Periods of Apnea
- Pneumonia
- Pulmonary Embolism
- Respiratory Medications
- Spinal Cord Injury
- Thermal Injury

EMS II

- Agents for Rapid Sequence Intubation
- Asystole
- Epidural Hematoma
- Fluid and Electrolyte Imbalance
- Heroin Overdose
- Increasing Intracranial Pressure
- Kidney Stones
- Megacode Challenge
- Pelvis and Leg Injuries
- Tension Pneumothorax

EMS III

- Acute Coronary Syndrome
- Acute Myocardial Infarction with Hypotension
- Airway Management Intubation
- Altered Mental Status
- Cardiac Arrest
- Diabetic Ketoacidosis
- Flail Chest and Spinal Cord Injuries
- Multiple Gunshot Wounds
- Unstable Angina
- Ventricular Fibrillation and Pulseless Ventricular Tachycardia

EMS IV

- Abdominal Aortic Aneurysm
- Alcohol Gastritis/Bleeding Ulcer/Esophageal Varices
- Chlorine Poisoning
- Cold Water Drowning and Hypothermia
- Motorcycle Crash with Traumatic Evisceration
- Nerve Agent Organophosphate Poisoning
- Rattlesnake Bite
- Sickle Cell Crisis
- Spontaneous Abruptio Placentae
- Stoma Patient

EMS V *(PediaSIM HPS, PediaSIM ECS)*

- Abdominal Pain
- Basic Assessment
- Closed Head Injury
- Epiglottitis
- Femur Fracture
- Multi Trauma
- Seizures
- Sepsis
- Supraventricular Tachycardia
- Upper Respiratory Infection/ Croup

EMS VI *(Critical Care)*

- Asthma Attack with Rapid Sequence Intubation
- Calcium Channel Blocker Overdose
- Congestive Heart Failure and Intra-Aortic Balloon Pump
- Diabetes Insipidus with Traumatic Brain Injury
- Disseminated Intravascular Coagulation
- Electrical Injury with Rhabdomyolsis
- Methicillin-Resistant Staphylococcus Aureus (MRSA)
- Renal Failure with Hyperkalemia and Multiple Dysrhythmias
- Sepsis, SIRS and MODS
- Special K Overdose

Developed in partnership with:

WakeMed Center for Innovative Learning

Fox Valley Technical College *Knowledge That Works*

Foundations of Nursing Practice *(Apollo, iStan, HPS, METIman)*

- Basic Assessment of the Adult Patient with Asthma
- Basic Assessment of the Cardiac Patient
- Basic Assessment of the Hip Replacement Patient
- Basic Assessment of the Teenage Athlete with Fluid and Electrolyte Imbalance
- Chest Tube Insertion and General Ongoing Care
- Postoperative Care of the Patient with Complications: Ileus
- Postoperative Care of the Patient with Deep Vein Thrombosis
- Preoperative Care of the Patient Scheduled for a Cholecystectomy
- Skill Validation
- Suctioning and Trachea Care with Hypoxia

Infant Emergencies *(BabySIM)*

- Burn Injury
- Electrocution
- Envenomation
- Gunshot Wound
- Meningitis
- Methamphetamine Exposure
- Submersion Injury
- Traumatic Brain Injury

Infant Nursing *(BabySIM)*

- Abandoned Healthy Newborn
- Care of a Baby with RSV Bronchiolitis
- Congenital Cardiac Abnormalities
- Myelomeningocele
- Newborn with Respiratory Distress
- Septic Baby Secondary to Prolonged Rupture of Membranes
- Shaken Baby Syndrome
- Substance Exposed Neonate

Interpersonal Education (IPE)

Coming Soon!

- Acute Coronary Syndrome
- Alcohol Withdrawal Syndrome
- Cardiopulmonary Arrest
- Chronic Obstructive Pulmonary Disease Exacerbation
- Diabetic Ketoacidosis
- Disseminated Intravascular Coagulation
- End of Life
- Intraoperative Malignant Hyperthermia
- Major Post-Partum Hemorrhage Due to Uterine Atony
- Sepsis, SIRS, MODS

Patient-Centered Acute Care Training (PACT)

(Apollo, iStan, HPS, METIman)

Acute Myocardial Infarction
Acute Renal Failure
Acute Respiratory Distress Syndrome
Airway Management
Altered Level of Consciousness
Asthma
Brain Stem
Chronic Obstructive Pulmonary Disease
Hypertension
Hypotension
Intoxication 1
Intoxication 2
Neuromuscular Disease 1
Neuromuscular Disease 2
Peritonitis
Sepsis 1
Sepsis 2
Transport
Traumatic Brain Injury 1
Traumatic Brain Injury 2

Developed in partnership with:

EUROPEAN SOCIETY OF INTENSIVE CARE MEDICINE

Pediatric Advanced Life Support (PALS)

(PediaSIM HPS, PediaSIM ECS)
In accordance with AHA 2010 guidelines

Asthma Attack
Asystole
Bradycardia
Ingestion
Motor Vehicle Crash
PEA
Septic Shock
Shock
Supraventricular and Ventricular Tachycardia
Ventricular Fibrillation

New module in accordance with AHA 2015 guidelines

Coming Soon!

Pediatric Emergencies

(PediaSIM HPS, PediaSIM ECS)

Burn Injury
Electrocution
Envenomation
Gunshot Wound
Meningitis
Methamphetamine Exposure
Submersion Injury
Traumatic Brain Injury

Pediatric Nursing

(PediaSIM HPS, PediaSIM ECS)

Abnormal Variations in Heart Rate in a Six-Year-Old Patient
Acetaminophen Poisoning
Amputation Secondary to Osteosarcoma
Asthma Attack in the Pediatric Patient
Care of a Young Child with Meningitis
Cystic Fibrosis
Diabetic Ketoacidosis and Pneumonia
Fluid and Electrolyte Imbalance
Foreign Body Aspiration
Fractured Radius with Compartment Syndrome
Near Drowning
Postoperative Care with Complications: Seizures and Allergic Reaction
Renal Dysfunction Secondary to Acute Streptococcal Glomerulonephritis
Septic Pediatric Patient Secondary to a Ruptured Appendix
Terrorism by Chemical Agent
Traumatic Brain Injury

Perioperative Management *(Apollo, iStan, HPS, METIman)*

Anaphylaxis and Anaphylactic Shock
Blunt Trauma Patient Care
Bradyarrhythmia and Cardiogenic Shock
COPD Exacerbation
Gastrointestinal Hemorrhage
Hemorrhagic Shock PACU
Myocardial Infarction in the Postoperative Setting
Postoperative Fever
Sepsis and Septic Shock
Tachyarrhythmia and Cardiogenic Shock

Developed in partnership with:

Baystate Medical Center
A Member of Baystate Health System

Program for Nursing Curriculum Integration (PNCI)

(Apollo, iStan, HPS, METIman)

PNCI is a full learning package that integrates pre-licensure nursing curriculum with high-fidelity patient simulation. With 100 evidence-based Simulated Clinical Experiences (SCEs), PNCI can be used with both CAE Healthcare patient simulators and other brands. Includes the Joint Commission's National Patient Safety Goals, and the Quality and Safety Education for Nurses (QSEN) competencies.

Adult Learning Modules
Assessment (8 SCEs)
Fundamentals (9 SCEs)
Medical-Surgical (12 SCEs)
High Acuity (26 SCEs)
Chronic (10 SCEs)
Community (5 SCEs)
Obstetrics (5 SCEs)
Leadership (1 SCE)

Pediatric Learning Modules
Infants (8 SCEs)
Pediatrics (16 SCEs)

Developed in partnership with:
Texas Woman's University Dallas, Prairie View A&M University, Fox Valley Technical College, Mount Carmel College of Nursing, Golden West College, Rutgers, The State University of New Jersey, Delgado Community College, University of Glamorgan and University of West London

Rapid Assessment and Intervention

(Apollo, iStan, HPS, METIman)

Acute Ischemic CVA
Anaphylactic Reaction to Blood Administration
Cardiopulmonary Arrest
Care of the Seizure Patient
Deep Vein Thrombosis, Pulmonary Embolism
Myocardial Infarction
Postoperative Diabetic Patient
Sepsis with Hypotension
Postoperative Hemorrhage
The Deteriorating Client with COPD

Developed in partnership with:

CHART

Respiratory Education Simulation Program (RESP) *(Apollo, iStan, HPS, METIman)*

RESP I

Basic Assessment of Asthma
Basic Assessment of Emphysema
Basic Mechanical Ventilation
Chronic Obstructive Pulmonary Disease (COPD)
Drug Overdose
Guillain-Barré with Mechanical Ventilation
Home Health Ventilated Patient with Tracheotomy
Myocardial Infarction
Palliative Care
Sleep Apnea

RESP II

ACLS
ARDS
Conscious Sedation
Hemodynamics and Re-intubation of Ventilated Patient
Mechanics of BiPAP
Transportation of Ventilated Patient
Treatment of Advanced Asthma
Treatment of Chest Trauma
Treatment of COPD Exacerbation
Treatment of Isolated Patient

RESP III

Amytrophic Lateral Sclerosis - ALS (Lou Gehrig's Disease)
Carbon Monoxide Poisoning
Care of Tracheotomy Patient
Chest Physiotherapy
Cystic Fibrosis
Heliox Asthmatic Treatment
Near Drowning
Obstructed Airway
Treatment of Burn Patient
Ventilator Weaning

Developed in Partnership with:

CHEST™ AMERICAN COLLEGE of CHEST PHYSICIANS

Athena Learning Modules

Adult Nursing
EMS I
RESP I
ACLS 2015

Coming Soon!

Tactical Medical Care (TMC) *(Apollo, iStan, HPS, METIman)*

Allergic Reaction
Amputation, TBI and Abdominal Injury
Arm Laceration
Barotrauma/Decompression Sickness
Blast Injury
Burns and Spinal Shock
Cardiac Arrest
Cervical Injury
Closed Head Injury, Chest and Abdominal Trauma
Closed Head Injury and Blunt Trauma to Chest
Cold Water Near Drowning
Dehydrated Sniper
Diabetic with Altered Mental Status
Exposure to Chemical Nerve Agent
Fatality from Fall
Flail Chest and Spinal Cord Injury
Gun Shot Wound
Head Injury and Femur Fracture
Hip, Pelvis and Sternal Trauma
Leg Amputations and Burns
Multiple Gun Shot Wounds
Multiple Trauma from Hand-to-Hand Combat
Pelvic Trauma and Pneumothorax
Pelvis and Leg Injuries
Poisoning/Overdose
Respiratory Distress
Seizures
Tension Pneumothorax
Trauma with Hypoglycemia
Unconscious after Explosion

Urgent Obstetrical Situations

(Lucina)

New!

Anaphylactoid Syndrome of Pregnancy
Chronic Fetal Hypoxia Associated with Placental Insufficiency
Fetal Heart Rate Signal Loss
Inadvertent Monitoring of Maternal Heart Rate
Major Placental Abruption
Maternal Hypotension following Epidural Block
Maternal Sepsis
Oxytocin Induced Uterine Tachysystole
Repetitive Decelerations Caused by Umbilical Cord Compression
Uncontrolled Gestational Diabetic

NEW! TRAINING FOR LIFE

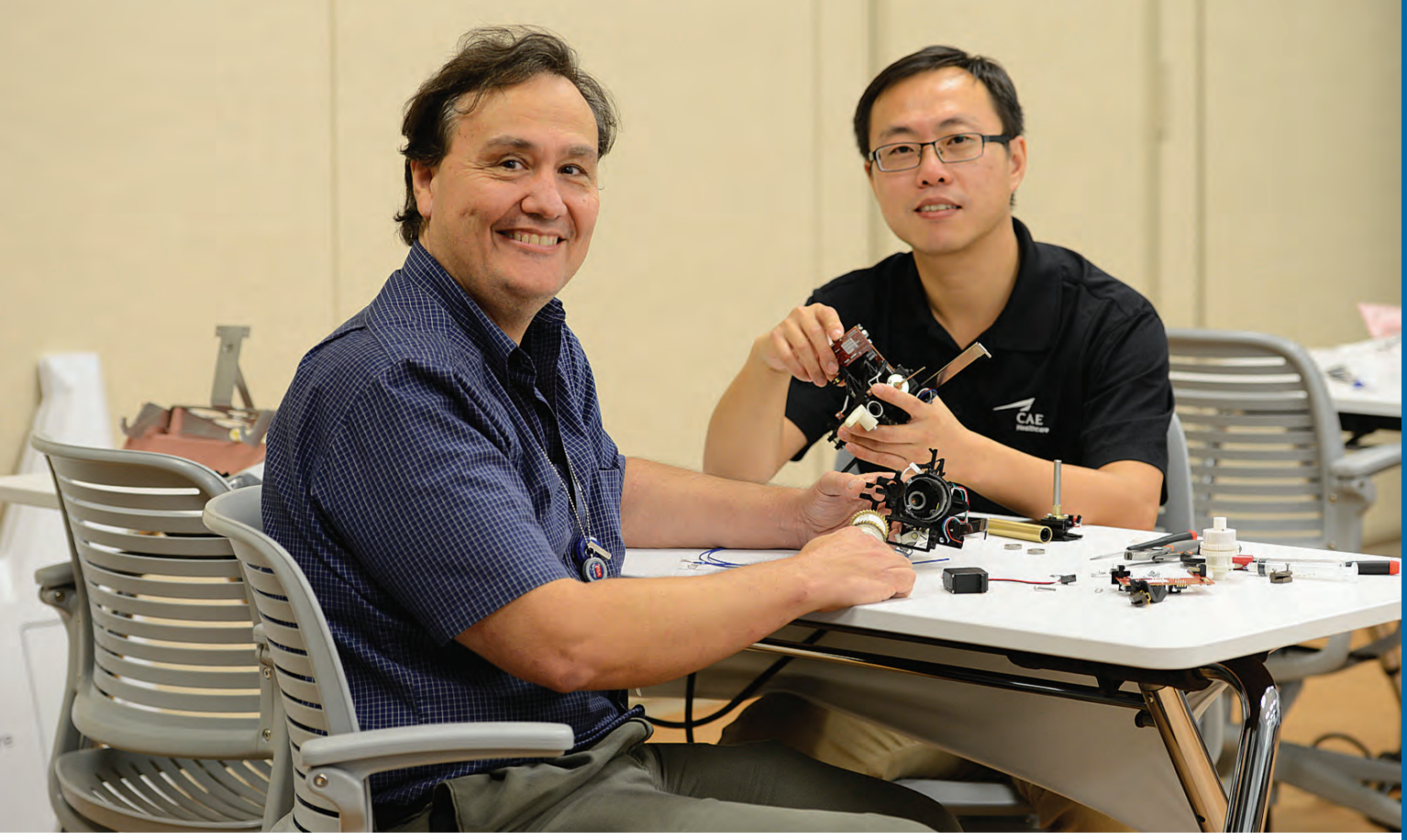
CAE Healthcare has introduced free Training for Life, an exclusive benefit for CAE Healthcare customers. Our hands-on training courses were developed by the CAE Healthcare Academy, and they cover basic to advanced techniques and principles. For added convenience, we offer courses in the United States, Canada, Germany and select CAE aviation training facilities.

Training for Life™

Access free, unlimited training courses for the life of your simulator with the purchase of a CAE Assurance support and maintenance plan. Only CAE Healthcare offers training for all of your staff for the life of your simulator.

- Develop your growing simulation staff and reduce the impact of turnover
- Keep your simulation skills up to date
- Learn current best practices from our Academy of clinical educators
- Share tips and tricks with other simulation users
- Practice advanced level simulation, including guided scenario development
- Attend courses in Sarasota, Florida; Long Beach, California; Montreal, Quebec or Mainz, Germany

To learn more about CAE Assurance and Training for Life, send a request for information to srqaccountmanagers@cae.com



CAE Assurance — Support and maintenance plans for peace of mind

All CAE Healthcare simulators include a free, one-year CAE Assurance Value support and maintenance plan with the option to upgrade to a Premier plan. After one year, we offer three levels of renewals for added peace of mind.

Value support and maintenance

Includes labor and materials for product repairs at a CAE Healthcare facility, with loaners provided at CAE Healthcare's discretion

Software upgrades

Technical and clinical customer support hotline (telephone, fax or email)

Training for Life

Premier support and maintenance

All Value support and maintenance agreement benefits

Priority scheduling for onsite repairs

Shipping and freight costs to and from CAE Healthcare technical facilities are covered

Premier Plus support and maintenance

Customers opting for coverage of three or more simulators are eligible to receive all the Premier support and maintenance agreement benefits at a discounted rate

CAE Healthcare's dedicated customer support team is highly trained and responsive, with technicians based in strategic locations around the world to offer support when you need it. Access a technician or educator by phone or email.

Americas

United States Toll Free	+1 (866) 462-7920
Canada Toll Free	+1 (877) 223-6273
U.S. Email	customerservice@caehealthcare.com
Canada Email	can.service@caehealthcare.com
Latin America Email	la.service@caehealthcare.com

Europe, Middle East and Africa (EMEA), Asia Pacific

Phone	+49 (0) 6131 4950354
Email	international.service@caehealthcare.com

UK and Ireland

Phone	+44 (0) 800-917-1851
Email	uk.service@caehealthcare.com

Audiovisual Solutions Support (LearningSpace & Replay)

Toll Free	+1 (866) 462-7920 Option #3
Email	avs-support@cae.com

caehealthcare.com

For information about CAE Healthcare products in the U.S. & Canada contact your regional sales manager, visit our website or call +1 941-377-5562 Toll-free number 866-233-6384

To locate an international distributor in your country visit the Contacts tab on **caehealthcare.com**

CAE Healthcare offers simulation-based patient, imaging, interventional and learning solutions to improve patient safety and outcomes. Our leading-edge products and learning modules provide risk-free practice and professional development to physicians, nurses, EMS responders, military medics, students and allied health professionals around the world.