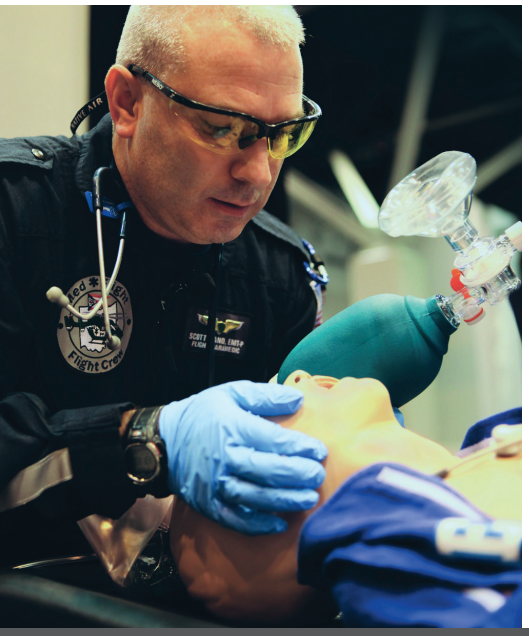
PediaSIM®

Childlike appearance, validated physiology



CAE Healthcare designed the PediaSIM to provide advanced pediatric simulation training so healthcare providers can perform at their best in pediatric critical care. PediaSIM represents a six-year old patient with a comprehensive set of education features for trauma, nursing, and emergency response care. Learners can practice and achieve mastery in a range of pediatric critical interventions, including needle cricothyrotomy, chest tube insertion and airway adjunct management.

With PediaSIM, you get the same level of validated physiology and features you've come to expect from our adult simulators, allowing your learners to gain advanced skills and competency in pediatric care.

Pediatric learning modules available for EMS and nursing

CAE Healthcare

Technical Specifications

Standard Equipment
PediaSIM manikin
Instructor's workstation
Müse software
2 patients
6 Simulated Clinical Experiences (SCEs)
Power and Communications Unit
4 SCE development licenses
TouchPro wireless patient monitor
Portable air compressor
Electronic user guide
CAE Assurance value plan with customer and technical support, Training for Life™ and option to renew

PediaSIM HPS Option
The PediaSIM HPS includes all of the same features of the standard PediaSIM with the added ability to support anesthesia and respiratory care. PediaSIM supports the use of anesthesia and medical gases for medical training.

Standard PediaSIM HPS Equipment
PediaSIM HPS manikin
Instructor's desktop workstation
Control rack
Müse software
2 patients
13 Simulated Clinical Experiences (SCEs)
Pharmacology Editor
Drug recognition kit
Full-function monitor interface

Optional Equipment
Tablet PC (PECS only)
Hands-free cable kit
Manikin carrying case
Adult Plug and Play

Manikin
48 inches (122 cm), 38 pounds (17.24 kg)

Electrical
Input: 100-240V, 50/60Hz, 2.3A

Ambient Temperature Range
Operation: 41°F to 104°F

Humidity
0% to 90% noncondensing

Key Features

Neurological
- Tri-state pupils and blinking eyes
- Automatic changes in blinking based on inadequate respiratory and cardiovascular conditions

Airway
- Upper airway designed from CT scan data of a real human patient
- Articulating mandible
- Difficult airway features include tongue swelling with variation of swollen and semi-swollen, pharyngeal obstruction, laryngospasm, and bronchial occlusion
- Intubation: orotracheal and nasotracheal, with the detection of right mainstem intubation
- Accommodates gastric distention with esophageal intubation
- ET Tube, combitube, LMA and other airway adjunct placement
- Bag-valve-mask ventilation
- Various emergency airway procedures include needle cricothyrotomy, transtracheal jet ventilation, retrograde wire techniques, and cricothyrotomy

Breathing
- Spontaneous breathing
- Bilateral and unilateral chest rise and fall
- Measures the presence or absence of carbon dioxide exhalation
- Bilateral chest tube insertion with fluid output
- Bilateral needle decompression
- Breath sounds are independently controlled and include normal, crackles, diminished, wheezing

Cardiac
- Defibrillation and cardioversion using live defibrillators, energy is automatically quantified and logged
- Pacing (use of hands-free pads), current is automatically quantified and logged
- 5-lead dynamic ECG display
- Cardiac sounds include:
  - Normal
  - S3, S4, S3 and S4
  - Early Systolic Murmur, Mid Systolic Murmur, Late Systolic Murmur, Pan Systolic Murmur, Late Diastolic Murmur

CPR
- Correct hand placement, depth, and rate of compressions are reflected in physiological feedback rather than virtual target on instructor's workstation
- Adequate chest compressions result in simulated circulation, cardiac output, central and peripheral blood pressures, carbon dioxide return

Trauma
- Secretions from eyes, ears and mouth

Urological
- Urine output
- Urinary catherization with instructor controlled flow rate
- Interchangeable genitalia

Circulation
- Blood pressure measurement by auscultation and palpation
- Bilateral carotid, brachial, radial, femoral, popliteal, and dorsalis pedis pulses
- Pulse deficit automatically occurs if the systolic arterial blood pressure falls be hold certain thresholds
- Hemodynamic response to arrhythmias is physiologically accurate
- Hemodynamic monitoring feature provides the capability to measure and monitor the following:
  - Arterial blood pressure
  - Left ventricular pressure
  - Central venous pressure
  - Right atrial pressure
  - Right ventricular pressure
  - Pulmonary artery pressure
  - Pulmonary artery occlusion (wedge) pressure
  - Thermodilution cardiac output

Metabolic System
Metabolic features are physiologically modeled within the software and the results are made available on the instructor workstation
- ABG data displayed corresponds accurately and dynamically to the alveolar concentration of CO_2 and O_2
- Instructor driven simulated metabolic acidosis and alkalosis

Vascular Access
- IV insertion supported in right arm including cephalic, basilic, and antibrachial veins
- IO site access on anterior tibia of right leg
- Right jugular IV line supports infusions

Pharmacology System
- Pharmacology system models automatically calculate the pharmacokinetics and pharmacodynamics for 56 intravenous and inhaled medications
- All patient responses to drugs are automatic, dose dependent and follow appropriate time course

Sounds
Breath, cardiac, bowel and vocal sounds include:
- Pre-recorded sounds and voices
- Customized sounds and voices via the provided wireless microphone

Articulation
- Range of motion in the wrists, elbows, knees and ankles