



## CAE Lucina

For all aspects of  
childbirth, before,  
during and after

### Unrivalled realism and versatility for normal childbirth and emergency scenarios

CAE Lucina allows practice in pre-partum assessment and care, labor and delivery (routine and emergency), patient transport, and post-partum management, all with one wireless patient simulator. Powered by CAE's unique physiology modeling engine, with integrated maternal and fetal physiology, Lucina responds automatically to obstetric maneuvers and clinical interventions. CAE Lucina supports mechanical ventilation and offers the most complete training in shoulder dystocia, post-partum hemorrhage and other important cases.

CAE Lucina is also the most versatile simulator available today: With the Female Patient Module, Lucina easily transforms into a non-gravid patient for practice in emergency scenarios unrelated to maternity. Add the Microsoft HoloLens application module and Lucina becomes LucinaAR, the world's first childbirth simulator to offer real-time, interactive 3D holograms of anatomy for more immersive training.

Find out how CAE Lucina can redefine your expectations at [caehealthcare.com](http://caehealthcare.com).

Your worldwide  
training partner  
of choice



# Technical Specifications

## Standard Equipment:

- Wireless maternal manikin
- Birthing fetus
- Fetus to support Leopold's maneuvers
- 2 abdomens (1 for delivery, 1 for prepartum and postpartum)
- Postpartum uterus
- Static cervices for vaginal exams
- Instructor's workstation with 2 device options
- Muse operating software
- Wireless emulated patient monitor
- 3 patient profiles
- 10 Simulated Clinical Experiences (SCEs)
  1. A normal delivery
  2. An instrumental vaginal delivery
  3. Fetal tachycardia due to maternal pyrexia
  4. Breech delivery
  5. Fetal central nervous system depression by narcotics given to the mother
  6. Shoulder dystocia
  7. Major post-partum hemorrhage due to uterine atony
  8. Maternal cardio-respiratory arrest
  9. Eclampsia
  10. Umbilical cord prolapse
- 4 SCE development licenses
- CAE Assurance value plan with customer and technical support, Training for Life™ and option to renew
- Electronic user's guide

## Optional Equipment

- LucinaAR application for Microsoft HoloLens
- Additional battery and charger
- Fully and partially inverted uterus with a Uterine Inversion SCE
- Additional static cervices
- Abdominal cover for all fours birthing position (required for this position)
- Female Patient Module with non-gravid abdomen and 5 SCEs
  1. Chronic Heart Failure Exacerbation
  2. Acute Respiratory Distress Syndrome
  3. Sepsis with Hypotension
  4. Brain Attack w/ Thrombolytic Therapy
  5. Motor Vehicle Collision with Hypovolemic Shock

## Manikin

- 69" H x 22" W x 15" D (175cm x 56cm x 38cm)
- 111lbs (50 kg)

## Fetus

- 19" H x 6" W x 4.5" D (48cm x 15cm x 11.5cm)
- 5.5 lbs (2.5 kg)

## Electrical

- Input: 100-240V, 50/60Hz, 2.3A
- Internal batteries: 14.4V, Lithium ion battery

# Maternal Features

## Obstetrical

- Integrated maternal-fetal physiological modeling
- Realistic and consistent birth canal and vulva
- Perineum support with accurate fetal descent and rotation
- Multiple birthing positions: lithotomy, sitting and all fours
- Rectal suppository administration

## Prepartum

- Vaginal examinations for evaluation of the cervix, fetal station, and position
- Static cervices represent various stages of dilation from closed to 5cm, and effacement from 0 to 90%
- Leopold's Maneuvers
- Epidural port with infusion and aspiration

## Intrapartum

- Realistic palpable uterine contractions
- Controllable rate and duration of contractions
- Trendelenburg position with detection
- Left lateral tilt with detection
- Vertex and breech delivery
- McRoberts Maneuver with observable pelvic tilt
- Suprapubic pressure support and detection with palpable symphysis pubis
- Supports delivery of posterior arm during shoulder dystocia
- Zavanelli maneuver with detection
- C-section team training support
- Rotation of anterior and posterior shoulder is detected in resolving shoulder dystocia (Rubin II and Woods' Screw Maneuvers)
- Forceps application
- Vacuum extraction
- Intact/fragmented placenta with realistic color, texture and flexibility

## Fetus

- Fetal heart sounds-5-locations based on fetal presentation
- Articulated fetal body neck (with lateral neck movement), shoulders, elbows, hips, and knees
- Clinically accurate fetal size with tactile realism-50<sup>th</sup> percentile on the WHO growth chart
- Fetal neck traction sensing
- Palpable fontanel and sagittal suture
- Fetal airway suctioning
- Programmable audible cry upon delivery
- Predicted 1-minute and 5-minute APGAR scores based on fetal blood gas values
- Umbilical cord that can be cut and clamped

## Postpartum

- Postpartum hemorrhaging, including Class III hemorrhage
- Contracted and boggy uterus
- Bimanual compression and uterine massage with detection and automatic response
- Uterine blood released upon massage
- Inverted postpartum uterus
- Uterine reversion (optional uterine inversion module)
- Intrauterine balloon insertion



# Key Features

## Airway and Breathing

- Realistic upper airway
- Positive pressure ventilation
- Advanced lungs with mechanical ventilation support, including patient-triggered modes
- Airway management and ventilation
- Supports endotracheal tubes, nasal-pharyngeal and oropharyngeal airways
- Spontaneous breathing
- Bag-valve-mask ventilation
- Lung auscultation: anterior and posterior with individual lung control
- Spontaneous chest excursion

## Circulatory System

- ECG monitoring posts for interface with real ECG monitor
- 12-lead dynamic ECG display
- Dynamic bilateral pulses: carotid, radial, brachial, and dorsalis pedis; pulse strength can be controlled

## Cardiovascular

- Correct hand placement detection
- Advanced CPR analysis (compression depth and rate, chest recoil, compression fraction, ventilation volume and rate)
- CPR metrics compliant with 2015 AHA guidelines
- Pacing, cardioversion and defibrillation
- NIBP - by auscultation and palpation
- Heart sounds

## Nervous System

- Seizure is simulated with rhythmic movement of arms and rapid blinking
- SymEyes display patient symptoms and conditions, including jaundice, hemorrhage, keyhole pupil, cataracts and bloodshot or droopy eyes
- Blinking, panning and reactive eyes with multiple settings

## Fluids

- Postpartum bleeding tank (1.8 L)
- Bilateral IV arms
- Urinary catheterization
- Epidural infusion

## Speech

- 2-way voice communication
- Prerecorded speech