Improving maternal and neonatal care

SimMom™
Birthing Simulation Solutions

www.laerdal.com/simmom
Innovative simulation

Improving patient safety

Simulation has gathered increasing acceptance over the years as an integral part of healthcare training and as a fundamental approach to help improve patient safety.

In the field of obstetrics, research into suboptimal patient outcomes have identified the following key contributory factors: confusion in roles and responsibilities; lack of cross monitoring; failure to prioritize and perform clinical tasks in a structured, coordinated manner; poor communication and lack of organizational support.


Preventing adverse outcomes during birth

Simulation training is unique in its ability to facilitate effective team training. By bringing together multi-disciplinary healthcare professionals in a simulation to rehearse both common birthing scenarios and emergency critical incidents; early recognition of birth complications, correct diagnosis and rapid, coordinated action from the delivery team can be perfected for improved outcomes.
SimMom™ is an advanced full-body birthing simulator with accurate anatomy and functionality. SimMom has been developed to provide you with a comprehensive simulation solution to support multi-disciplined staff in obstetric and midwifery care, enabling refinement of individual skills and team performance.

With a range of Technical and Educational Services as well as pre-programmed scenarios to ease educator preparation time, SimMom is the optimal simulation experience.

By integrating the strengths of the PROMPT birthing simulator from Limbs & Things with the ALS Simulator from Laerdal, SimMom provides anatomical accuracy and authentic simulation experiences that together, facilitate valuable learning experiences for a wide range of midwifery and obstetric skills.
SimMom™ supports your educational learning objectives

SimMom™ allows you to train in the management of essential clinical factors and process of birth as well as interventions for maternal and fetal complications.

SimMom is ideally suited to support nursing, residency and paramedic training programs and can complement continuing educations/training programs geared toward improving patient care and outcomes in hospital based settings.

Ante Partum period
- Fetal heart tone and uterine activity monitoring
- Vital signs monitoring
- Measurement of fundal height

Intrapartum period
- Normal delivery stages and process
- Assess maternal vital signs and uterine contractions
- Pain management and induction of labor – medication administration
- Fetal monitoring with Doppler, Fetoscope or Pinard
- Monitoring frequency and duration of contractions and FHR tracings
- Assessment of cervical dilation during active and transition stages
- Monitoring of amniotic sac and amniotomy/rupture of membranes
- Management of abnormal amniotic fluids/meconium

Management of maternal complications
- Hemorrhage
- Sepsis
- Cesarean section delivery
- Obstructed labor
- Thromboembolism
- Maternal arrest
- Pre-eclamptic/eclamptic seizure
Management of infant complications

- Obstructed delivery
  - Shoulder Dystocia (McRoberts, Gaskin and Rubin maneuvers)
  - Breech delivery (Lovesets maneuver)
- Instrument delivery – Use of forceps or vacuum
- Prolapsed umbilical cord
- Nuchal cord

Postpartum period

- Hemorrhage management/blood volume estimation
- Retained placental fragment
- Inverted Uterus
- Fundal assessment and care to include atonic/boggy uterus management
- Bladder assessment-catheterization/Installation
- Bowel sounds assessment
- Infection-medication administration
- Postpartum education-breastfeeding

Neonatal care/assessment

- Basic newborn care/assessment with birthing baby
  - Extremity range of motion examination
  - Umbilical cord care
  - Newborn suctioning techniques
  - Sponge bathing and swaddling techniques
Caring for the mother...

SimMom™

The SimMom™ birthing simulator offers anatomy and functionality to facilitate multi-professional obstetric training of delivery management.

Easy to use
Simple operation allows you to build basic to advanced level scenarios appropriate for required learning objectives.

Realism
SimMom provides for the realistic practice of multiple delivery positions and maneuvers, teamwork, leadership and communication skills in a risk-free environment. Manual delivery (birthing) system promotes real-time student learning and offers flexibility to give immediate response to students actions and prompt corrective actions. Uterus modules add further realism and extend the application of the simulator.

Standardized and consistent learning
Pre-programmed scenarios provide standardized training for consistent quality patient care. Customizable scenarios and real time instructor controls allow for scenario adaptation to accommodate individual student or team needs.

Multipurpose
SimMom can be used as a task trainer or as a full body simulator: In addition, it can be used for non obstetric training and as a female pregnant simulator.

Deliveries & drills
- Normal delivery
- Breech presentation
- Assisted deliveries
  - Forceps
  - Vacuum
- Shoulder dystocia
- Cord prolapse
- Eclampsia and pre-eclampsia
- Maternal collapse
- Postpartum Hemorrhage
- Sepsis
- Uterine inversion
- Ruptured uterus

Movement
- Seizure
- Able to position on all fours:
  - Realistic rotation of the shoulder and hip joints
  - Legs bend at the knees
  - Arms bend at the elbow
- Other positions:
  - Supine
  - Semi-recumbent
  - Left lateral
  - Legs in stirrups
  - McRoberts position

Caring for the mother...

SimMom Graphical User Interface
- Controlled via Instructor PC
- Highly configurable
- Easy to operate and control mother and fetus vital signs
- Run on-the-fly, customized or pre-programmed scenarios

Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>SimMom Simulator*</td>
<td>377-05050</td>
</tr>
<tr>
<td>SimMom Advanced with Complete Peripheral Kit (With Monitor)</td>
<td>378-00001</td>
</tr>
<tr>
<td>SimMom Advanced with Standard Peripheral Kit</td>
<td>378-10001</td>
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</tbody>
</table>

* For customers who have a VitalSim control unit and compressor. Software must be purchased separately.
Features and Benefits

Breathing features
- Simulated spontaneous breathing
- Variable respiratory rates
- Bilateral and unilateral chest rise and fall
- Normal and abnormal breath sounds
  - 4 anterior auscultation sites
  - Bilateral midaxillary sites

Pelvic components
- Atonic uterus modules (for PPH, uterine inversion and retained placenta)
- Fluids (e.g. blood, stained amniotic fluid and urine)
- Urine catheterization/instillation

Cardiac features
- Extensive ECG library
- Heart sounds synchronized with ECG
- ECG rhythm monitoring
- 12 lead ECG display
- Defibrillation and cardioversion
- Pacing

Circulation features
- BP measured manually by auscultation of Korotkoff sounds
- Bilateral carotid and brachial pulse, radial (right side only) pulses synchronized with ECG
- Pulse strength variable with BP
- Pulse palpation is detected and logged

Chest compressions
- CPR compressions generate palpable pulses, blood pressure wave form, and ECG artifacts
- Detection and logging of a series of compressions

Other features
- Bowel sounds and foetal heart rate (not at the same time)
- Interchangeable pupils (normal, blown and constricted)
- Patient Voice
  - Pre-recorded sounds
  - Custom sounds
  - Instructor can simulate patient’s voice wirelessly

Vascular access
- Pre-ported IV access (both arms)
- Subcutaneous and intramuscular injection sites

Airway features
- Obstructed airway
- Tongue edema
- Right lung, left lung and both lung blockage
- Head tilt/Chin lift
- Jaw thrust
- Suctioning techniques (oral and nasopharyngeal)
- Bag-Valve-Mask ventilation
- Oropharyngeal and nasopharyngeal intubation
- Combitube, LMA and other airway device placement
- Endotracheal intubation (ET)
- Retrograde intubation
- Nasal and oral fiberoptic intubation
- Trans-tracheal jet ventilation
- Right mainstem intubation
- Surgical and needle cricothyrotomy
- Chest tube insertion

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**SimMom can be used as a full body simulator or as a task trainer**

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**SimMom** Simulator includes:
- Manikin
- Birthing Baby
- 4 Uteri Modules
- Set of Consumables
- Blood Pressure Cuff
- Directions for Use

**SimMom Advanced with Complete Peripheral Kit (With Monitor)** includes:
- Manikin
- Birthing Baby
- 4 Uteri Modules
- VitalSim Control Unit
- Laptop PC
- Touch Screen Monitor
- USB Webcam
- SimNewB Compressor
- Blood Pressure Cuff
- Set of Consumables
- Operating Software
- Directions for Use
- Carry Case

**SimMom** Advanced with Standard Peripheral Kit includes:
- Manikin
- Birthing Baby
- 4 Uteri Modules
- VitalSim Control Unit
- Laptop PC
- USB Webcam
- SimNewB Compressor
- Blood Pressure Cuff
- Set of Consumables
- Operating Software
- Directions for Use
- Carry Case
...and child

Birthing Baby

- Realistically modelled head with all head landmarks present (fontanelles and sutures)
- Head can be used for forceps deliveries (including rotational) and suction delivery (kiwi and ventouse)
- Head can be easily manipulated by the trainer and flexes naturally as it is pushed through the birth canal
- Mouth for suction and Smellie-Veit (if required)
- The birthing baby's body is designed to allow it to be easily pushed through the birth canal
- Bony prominences of the hips to support Lovset's maneuvers
- Realistically positioned landmarks - scapulae and clavicles
- Arms and legs fully moveable to allow for maneuvers required during deliveries - particularly breech and shoulder dystocia.
- Umbilicus and placenta (normal and retained)
- Fetal heart rate: normal, bradycardia and tachycardia (via software)

Electronic Fetal Monitoring - EFM/ Cardiotocography - CTG

- EFM graphic display Fetal Heart Rate waveform and Uterine Activity waveform.
- EFM is displayed on the patient monitor with mother's vital signs
- Fetal monitoring is recorded and it is possible to scroll back to view on the patient monitor
- The software allows you to use the preset states as well as utilize the customized parameters

Patient monitor

- Highly configurable
- X-Ray display
- Debriefing
- Touch screen
- Mother vital signs and EFM
- Oxygen saturation and waveform
Four pelvic modules facilitate baby delivery and postpartum scenarios. Modules are easily interchangeable by unscrewing and removing the pelvic ring clamp.

**Delivery Modules**

**Cervix:** The durable silicone cervix can dilate from 4 cm to 10 cm. The cervix module is used with the Birthing Baby for deliveries.

**Amniotic bag:** The Birthing Baby can be used in the amniotic bag to extend the level of realism during delivery and to simulate the rupturing of the membranes during delivery.

**Postpartum Modules**

**Postpartum Hemorrhage:** Atonic uterus can be recognized and managed. Pressurised fluid reservoirs allow for simulated blood and urine to be used during a PPH simulation. A placenta with retained lobe can also be placed inside the uterus and manually removed.

**Uterine Inversion:** Uterus inverts when traction is applied to the umbilical cord. This module allows for recognition of inversion as well as manual replacement.
The complete solution

There is so much more to simulation than the patient simulator itself. That is why when we create a complete solution, we give just as much attention to the scenarios you will want to run and the ongoing educational and technical services you will require, so that you get the most out of your simulation programs now and for many years to come.

- **Patient Simulators** from Laerdal
- Laerdal **Courseware**
- Laerdal **Services**

Our complete line of **Patient Simulators**

The complete portfolio of Laerdal patient simulators offers quality training solutions for obstetric, neonatal, infant, pediatric and adult patient care. If you would like to find out how other healthcare organizations are incorporating our products into their training programs, please visit the User Story section on our website.

Save time with **Courseware**

Internationally recognized as a leading expert in obstetric simulation, Professor Tim Draycott from Southmead Hospital, UK has developed scenarios for use with SimMom that will compliment many of the core elements of obstetric training programs worldwide.

**Scenarios Include:**

- Normal Delivery
- Breech Delivery
- Maternal Collapse
- Umbilical Cord Prolapse
- Eclampsia / Pre-eclampsia
- Postpartum Hemorrhage
- Instrumental Delivery
- Uterine Inversion
- Ruptured Uterus
- Shoulder Dystocia
- Sepsis

**SimCenter™** offers easy access to validated content from worldwide simulation experts so you can take advantage of their experience and get the most from every learning opportunity. This is delivered in a fully integrated system that includes:

- **SimStore™**
- **SimDeveloper™**
- **SimManager™**
- **SimView™**
Your complete solution

Laerdal Services... supporting you all the way

The Laerdal Services portfolio offers comprehensive Educational Services to support your implementation goals, and extensive Technical offerings to meet your simulator servicing needs. From simulator installation, routine preventive maintenance, product orientation and operation through to helping you realize your learning objectives and incorporating scenarios, Laerdal Services are available to help make your simulation-based training program a success!

Please contact your local Laerdal representative for full details about the following services:

<table>
<thead>
<tr>
<th>Educational Services*</th>
<th>Technical Services*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction Course</strong></td>
<td><strong>Installation</strong></td>
</tr>
<tr>
<td>On completion of this two-day course, participants will be able to prepare, operate the simulator’s user interface, program and run scenarios using an instructional design process.</td>
<td>A stress free set-up of the simulator combined with basic operator training at your facility.</td>
</tr>
<tr>
<td><strong>Update Course</strong></td>
<td><strong>Preventive Maintenance Programs</strong></td>
</tr>
<tr>
<td>Ideal for refresher training and updating your simulation skills.</td>
<td>The simplest way to control costs with planned services so that corrective repairs can be avoided when your training programmes can least afford them.</td>
</tr>
<tr>
<td><strong>Continuous Education Courses</strong></td>
<td><strong>Extended Warranties</strong></td>
</tr>
<tr>
<td>We also offer scenario programming courses and custom courses to help you build competency and proficiency with your simulator(s).</td>
<td>A valuable agreement option that serves to reduce or eliminate unexpected repair expenses. They can be purchased in single-year increments.</td>
</tr>
<tr>
<td></td>
<td><strong>ValuePlus Service Programs</strong></td>
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<tr>
<td></td>
<td>For the ultimate in product services, we have created the ValuePlus Service programs to provide comprehensive product protection and generous savings to suit flexible budgets and needs.</td>
</tr>
</tbody>
</table>

*Services available may differ between countries
Helping save lives

Laerdal has been at the cutting edge of innovative healthcare training since the launch of Resusci Anne in 1960. Today, this experience comes to the fore with the addition of SimMom into our comprehensive range of patient simulators. Through the creation of high quality simulation solutions, we are committed to increasing the potential and scope of this most valued training methodology in support of our long held mission - helping save lives.

www.laerdal.com

Bringing Skills Training to Life

Limbs & Things designs, manufactures and promotes clinical and surgical skills training products. The company is dedicated to improving patient care by supporting healthcare professionals in their training. Serving training markets in Clinical Skills, Women’s Health and the Surgical Specialties, the company’s goal is to produce products which allow clinical educators to successfully deliver their curriculum requirements for physical examination and procedural skills.

www.limbsandthings.com