Geisinger Education and Medical Simulation (GEMS) Center
### Equipment

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Model</th>
<th>Type of Simulation</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy Model</td>
<td></td>
<td>Visual model</td>
<td>Teaching proper anatomy (all pieces are removable)</td>
</tr>
<tr>
<td>Airway Management Trainer (2)</td>
<td></td>
<td>Task trainer</td>
<td>Intubation techniques, ventilation, suctioning techniques</td>
</tr>
<tr>
<td>Breast Model</td>
<td></td>
<td>Task trainer</td>
<td>Clinical breast exam techniques, diagnosis of pathologies (carcinoma and fibroadenoma), aspiration of a cyst, self-examination technique</td>
</tr>
<tr>
<td>Catheter Models (2)</td>
<td></td>
<td>Task trainer</td>
<td>Dry catheterization (uses a 14-16fr), discontinue a urinary catheter. Both models have interchangeable male and female anatomy</td>
</tr>
</tbody>
</table>
Equipment

**Central Line Trainers (6)**
Type of Simulation: Task trainer
Purpose: Central line insertion, ultrasound guided techniques

**Code Carts with Defibrillator (2)**
Type of Simulation: Simulated hospital code cart
Purpose: Fully functional code cart for education, simulation, plus defibrillator functionality

**EndoVR Simulator**
Type of Simulation: High fidelity simulator
Purpose: Performance of endoscopic and bronchoscopic procedures using different techniques and tools

**Fetus Model**
Type of Simulation: Visual model
Purpose: Visual examination of fetal development
**Fundamentals of Laparoscopic Surgery Simulator (5)**
Type of Simulation: Task trainer
Purpose: Hands-on laparoscopic skills training with the opportunity to measure and document skills

**Injection Models**
Type of Simulation: Task trainer
Purpose: Injection practice IM and SubQ

**IV/Phlebotomy Arms (5)**
Type of Simulation: Task trainer
Purpose: IV insertion and phlebotomy skills (venipuncture can be performed in the antecubital area and dorsum of hand; accessible veins include the median, basilica, and cephalic; male and female models; light skin, tan skin, and black skins available)

**Joint Knee Injection**
Type of Simulation: Task trainer
Purpose: Palpation techniques, identifying anatomical landmarks, aspirating synovial fluids from the knee joint from both lateral and medial aspects
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<td>Joint Shoulder Injection</td>
<td>Task trainer</td>
<td>Palpation techniques, injection on five specific sites: subacromial space, acromioclavicular joint, bicipital groove, glenoid fossa from the anterior aspect and glenoid fossa from the posterior aspect</td>
</tr>
<tr>
<td>Lumbar Puncture Baby</td>
<td>Task trainer</td>
<td>Use of the lateral decubitus and sitting positions, palpate external landmarks, proper technique for lumbar puncture (spinal tap) procedure</td>
</tr>
<tr>
<td>Lumbar Puncture and Epidural Simulator</td>
<td>Task trainer</td>
<td>Epidural procedures, skin preparation, palpation of pelvic landmarks, palpation of lumbar spinous processes, needle positioning and insertion, collection of cerebrospinal fluid, CSF pressure measurement</td>
</tr>
<tr>
<td>Osteopathic Manipulation Tables (6)</td>
<td>Task trainer</td>
<td>Full functional manipulation tables</td>
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<tr>
<th>Name</th>
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<tr>
<td>OtoSim/OphthalSim</td>
<td></td>
<td>Software provides both otoscopic and ophthalmologic interactive sessions (improves accuracy of diagnosing pathologies of the ear and eye, practice ophthalmoscopy for diagnostic accuracy and efficiency, provides over 200 images EACH (for eye and ear), provides a basic case study approach and/or self-assessment</td>
</tr>
<tr>
<td>Paracentesis Model</td>
<td></td>
<td>Use ultrasound or landmarks during paracentesis (drain fluid from the peritoneal cavity, use midline or medial entry point to perform procedure, palpate anatomic landmarks significant to the procedure</td>
</tr>
<tr>
<td>Pediatric Vascular Ultrasound Training Phantom (2)</td>
<td>Type of Simulation: Task trainer</td>
<td>Contains four branched blood vessels ranging from 2mm to 6mm, assists in acquisition and interpretation of sonographic images of vessels, psychomotor skills associated with ultrasound guided venous and arterial cannulation procedures</td>
</tr>
<tr>
<td>Pelvic Trainer</td>
<td></td>
<td>Has various inserts to mimic the following - normal nulliparous cervix, large fibroid, nulliparous ectropion cervix, small fibroid, nulliparous polyp cervix, ovarian cyst, multiparous cervix, retroverted, multiparous cervix, 10-12 weeks pregnant, 14-16 weeks pregnant</td>
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<th>PROMPT Task Trainer</th>
<th>QCPR-D Adult Mannequin (4)</th>
<th>QCPR-D Infant Mannequin (2)</th>
<th>Regional Anesthesia Ultrasound Training</th>
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<tr>
<td><strong>Type of Simulation:</strong> Task trainer</td>
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<td><strong>Purpose:</strong> Used for the following – routine childbirth, difficult childbirth, individualized training, assessment of knowledge and team training for crisis events, stand-alone simulation, integrate intro hybrid simulation using SPs, cervical assessments (dilatation, effacement, station and presentation), cesarean section, post-partum bleeding scenarios</td>
<td><strong>Purpose:</strong> Computerized CPR mannequin that provides real-time feedback; airway heads that allow for supraglottic airway devices and/or bag-valve-mask ventilations; allows for the manikin to be defibrillated; allows for visualization of compression depth and rate, as well as ventilations; one of the mannequins allows for intra-osseous skill acquisition, as well as IV arm</td>
<td><strong>Purpose:</strong> Computerized infant CPR mannequin that provides real-time feedback; plus feedback regarding effective compression depth and rate; bag-valve-mask ventilation</td>
<td><strong>Type of Simulation:</strong> Task trainer</td>
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<td><strong>Purpose:</strong> Computerized infant CPR mannequin that provides real-time feedback; plus feedback regarding effective compression depth and rate; bag-valve-mask ventilation</td>
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<td><strong>Purpose:</strong> Assists in acquisition and interpretation of sonographic images of nerves and vessels; develops psychomotor skills of guiding needles to simulated nerves and vessels; develops ultrasound imaging skills, such as: using an ultrasound machine/controls, transducer positions and motions, recognition of vessels and nerves in soft tissue; targeting vessels/nerves for ultrasound guided regional anesthesia and vascular access</td>
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Equipment

**SimBaby**
Type of Simulation: High fidelity simulator
Purpose: High fidelity pediatric simulations; highlights include -
airway: laryngospasm, tongue edema, decreased lung compliance, and
gastric distension; pulmonary system: abnormal breathing patterns (see-saw & retraction), pneumothorax, normal and adventitious lung sounds;
cardiac: extensive ECG library, palpable peripheral and central pulses, normal and adventitious heart sounds, live defibrillation, pacing and cardioversion; access: bilateral IV/IO legs, right-sided IV arm; neuro: interchangeable pupils, seizure, and fontanel bulge

For full details, please visit:

**SimMan Essential**
Type of Simulation: High fidelity simulator
Purpose: High fidelity simulations; highlights include -
airway: orotracheal/nasotracheal intubation, cricothyrotomy, tongue edema, decreased cervical range of motion, and laryngospasm; pulmonary: normal and adventitious lung sounds, pneumothorax, variable lung compliance; cardiac: extensive ECG library, palpable peripheral and central pulses, normal and adventitious heart sounds, live defibrillation, pacing and cardioversion; access: right arm IV, tibial and sternal IO; other: can blink, normal and adventitious bowel sounds, can have urinary catheterization

For full details, please visit:

**SimJunior**
Type of Simulation: High fidelity simulator
Purpose: High fidelity simulations; SimJunior represents a 6-year-old boy that simulates a wide range of conditions from a healthy, talking child to an unresponsive, critical patient with no vital signs. Allows learners to focus on a broad range of pediatric skills in order to gain exposure and practical experience of life-threatening pediatric problems.

Available with a range of Technical and Educational Services, as well as validated simulation content, SimJunior presents a complete simulation solution for your pediatric training programs.

http://www.laerdal.com/us/SimJunior

**SimMom**
Type of Simulation: High fidelity simulator
Purpose: High fidelity obstetric simulations; highlights include -
capable of simulating normal cephalic, breech, shoulder dystocia, and operative deliveries. Moreover, it can simulate cesarean section, postpartum hemorrhage (with variable uterine firmness), incomplete placental delivery, and eclamptic seizure. It can deliver in the following positions: supine, left lateral, semi-recumbent, all fours, and McRoberts.

It also has realistic, programmable EFM and tocography.

For full details, please visit:
Equipment

**Suturing Surgical Skills Kits**
Type of Simulation: Task trainer
Purpose: Basic open surgical skills (basic and advanced suturing, knot tying under tension/depth, wound closure, instrument handling)

**Testicular Exam Model**
Type of Simulation: Task trainer
Purpose: Testicular self-examination; palpable lesions in various regions of testes

**Thoracentesis Model**
Type of Simulation: Task trainer
Purpose: Ultrasound or landmarks during thoracentesis (palpate anatomic landmarks significant to the procedure)

**Ultrasound Machines (6)**
Type of Simulation: Functional ultrasound
Purpose: Fully functional ultrasound machines; there are two on-site which can be used for education, simulations, and central line insertion courses
Equipment

Ultrasound Simulator
(SonoSim PLUS LiveScan)
Type of Simulation: Task trainer
Purpose: The Sonosim system offers didactic coursework and an ultrasonography interactive simulator. It also offers a section on knobology tutorials for various ultrasound machines. There is the option to complete the didactic modules from any computer using a secure website and userID/password. Hands-on component must be completed in the GEMS Simulation Center. Case studies available on the Sonosim: skills set, aorta/IVC, bladder, cardiology, intestinal/biliary, musculoskeletal, obstetrics, ocular, soft tissue, vascular, FAST assessment, RUSH assessment. Additionally, Sonosim Live Scan can be used to insert ultrasound images into other high fidelity simulations with customizable cases for trauma, cardiac resuscitation, OB and others.

Wound Care Staging Model
Type of Simulation: Visual model
Purpose: Wound care and visual staging of wounds

Wound, Ostomy and Suture Model
Type of Simulation: Task trainer
Purpose: Suturing techniques, wound care, ostomy care