Equipment Catalogue

Revised: January 2018

SIMULATION PROGRAM
CENTRE FOR SIMULATION-BASED LEARNING
McMaster University, HSC 1M & 1G
1280 Main Street West, Hamilton, ON L8S 4K1
Phone: 905-525-9140 ext. 22047
Web: http://simulation.mcmaster.ca

Mission Statement:

Creating simulation-based educational opportunities for healthcare professionals to provide safer, more effective patient care.
# TABLE OF CONTENTS

**Contents**

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>TABLE OF CONTENTS</td>
<td>2</td>
</tr>
<tr>
<td>CONTACT INFO &amp; POLICIES</td>
<td>4</td>
</tr>
<tr>
<td>STANDARD ROOM EQUIPMENT</td>
<td>4</td>
</tr>
<tr>
<td>MANIKINS</td>
<td>5</td>
</tr>
<tr>
<td>SimMan 3G</td>
<td>5</td>
</tr>
<tr>
<td>SimMan</td>
<td>5</td>
</tr>
<tr>
<td>SimJunior</td>
<td>6</td>
</tr>
<tr>
<td>SimBaby</td>
<td>6</td>
</tr>
<tr>
<td>SimMom</td>
<td>7</td>
</tr>
<tr>
<td>Newborn Baby HAL</td>
<td>7</td>
</tr>
<tr>
<td>Resusci Anne</td>
<td>8</td>
</tr>
<tr>
<td>MegaCode Kelly</td>
<td>8</td>
</tr>
<tr>
<td>MegaCode Kid</td>
<td>9</td>
</tr>
<tr>
<td>SIMULATORS</td>
<td>10</td>
</tr>
<tr>
<td>Harvey – The Cardiopulmonary Simulator</td>
<td>10</td>
</tr>
<tr>
<td>Vimedix Ultrasound Simulator</td>
<td>11</td>
</tr>
<tr>
<td>Abdominal Examination Trainer</td>
<td>12</td>
</tr>
<tr>
<td>Strap on Breasts</td>
<td>13</td>
</tr>
<tr>
<td>Gynecologic Manikins</td>
<td>14</td>
</tr>
<tr>
<td>Female Pelvic Examination Model</td>
<td>14</td>
</tr>
<tr>
<td>Childbirth Model</td>
<td>15</td>
</tr>
<tr>
<td>Rectal Exam Trainers</td>
<td>16</td>
</tr>
<tr>
<td>Male Pelvic Exam Trainers</td>
<td>17</td>
</tr>
<tr>
<td>PART TASK TRAINERS: Specialized Skills</td>
<td>18</td>
</tr>
</tbody>
</table>

EQUIPMENT CATALOGUE August 2017
Adult Airway Management Trainers ................................................................. 18
Pediatric Airway Management Trainers .......................................................... 19
Neonatal Intubation Trainers ........................................................................... 19
Difficult Airway Trainer .................................................................................. 20
Adult Multi-Venous IV Training Arms .............................................................. 21
Cricothyrotomy Trainer .................................................................................... 22
Vascular Access Training Pads .......................................................................... 23
PICC with IV & Arterial Line Vascular Access Ultrasound Trainer .................. 24
Ultrasound Guided Central Line Trainer .......................................................... 25
Lumbar Puncture & Spinal Epidural Ultrasound Capable Trainers ................. 26
Lumbar Puncture Baby ..................................................................................... 27
Arthrocentesis Training Model ......................................................................... 28
Paracentesis Ultrasound Training Model .......................................................... 29
Thoracentesis Ultrasound Training Model ......................................................... 30
Pericardiocentesis Ultrasound Guided Trainer ................................................. 31
Chest Drain & Needle Decompression Trainer .................................................. 32
OTHER EQUIPMENT ......................................................................................... 33
Ultrasound Machines ....................................................................................... 33
Welch Allyn Spot Vital Signs Devices ................................................................. 33
Bronchoscope ...................................................................................................... 34
GlideScope Video Laryngoscope System ........................................................... 35
Crash Cart with Zoll M Series Defibrillators ..................................................... 36
Sling Lift ............................................................................................................... 37
Ventilator (LTV 1200 Series MR) ...................................................................... 37
CONTACT INFO & POLICIES

If you would like to use any equipment listed within this catalogue, during your session within the Centre for Simulation-Based Learning (CSBL), please complete our online Resource Booking Form:


Requests for equipment are reviewed by the Simulation Team on an individual basis.

Please provide a **minimum notice of 4 – 6 weeks** for high-fidelity simulation requests. For all other equipment requests, please kindly provide 5 business days’ notice. Training to operate CSBL equipment can be arranged prior to use.

Special permission must be granted for those wishing to use any equipment outside of the CSBL and is dependent on the equipment being requested and current Centre operations. After hours, weekend and student use is possible with the presence of a faculty member.

For questions regarding equipment, please contact a Simulation Lab Technician:

Lisa Bonney   bonneyl@mcmaster.ca   Ext. 20268
Brenda Chrysler bchrys@mcmaster.ca   Ext. 22047

STANDARD ROOM EQUIPMENT

Each clinical teaching room is equipped with:

- A computer and wall-mounted monitor
- Learning Space (an audio/visual system for recording and observation)
- Exam table or hospital bed
- Diagnostic wall sets
MANIKINS

SimMan 3G
Quantity Available: 3

A realistic, full-body adult, patient simulator, SimMan 3G has advanced clinical functionality to teach critical skills. Wireless, self-contained, rugged, and reliable, SimMan 3G helps you meet the critical need for flexible training solutions.

For more information on the manikin and its capabilities please visit: SimMan 3G

SimMan
Quantity Available: 2

SimMan is a full body, adult (Male or Female) manikin that allows the simulation of basic and advanced life support skills and assessment to develop both individual and team skills. SimMan is not a wireless device.

For more information on the manikin and its capabilities please visit: SimMan
SimJunior facilitates interactive training of life-saving skills and responds to clinical intervention by instructor control and/or pre-programmed scenarios for effective practice of diagnosis and treatment of a patient. With Spontaneous breathing, airway, control, voice, sounds, ECG and other clinical features, SimJunior is a fully functional pediatric simulator. SimJunior allows observation and recognition of most vital signs, which enables the instructor to assess the student’s skills based on a realistic clinical situation.

For more information on the manikin and its capabilities please visit: SimJunior

SimBaby
Quantity Available: 1

SimBaby is an advanced infant patient simulator. With realistic anatomy and clinical functionality. SimBaby allows learners to practice and perfect their skills on an infant in a risk-free environment.

For more information on the manikin and its capabilities please contact a Simulation Labe Technician:

Lisa Bonney  bonneyl@mcmaster.ca  Ext. 20268
Brenda Chrysler  bchrys@mcmaster.ca  Ext. 22047
SimMom
Quantity Available: 1

SimMom is an advanced full body birthing simulator with accurate anatomy and functionality to facilitate multi-professional obstetric training of birth management, with both manual and automatic delivery modes. Learning to make quick decisions during child birth can mean the difference between life and death.

For more information on the manikin and its capabilities please visit: SimMom

Newborn Baby HAL
Quantity Available: 1

Newborn HAL® allows you to take advanced simulation where you need to go and that can be at an accident scene, in an ER, in a Labor and Delivery room, or in a NICU. “Care in motion” also provides the opportunity for you to measure how well patient “hand-offs” take place.

For more information on the manikin and its capabilities please visit: Newborn Baby HAL
**Resusci Anne**
**Quantity Available: 2**

Resusci Anne simulator has been designed for the unique needs of emergency care in both the pre-hospital and in-hospital environments transforming the simulation exercise into a mobile and dynamic learning experience for both the instructor and the student.

For more information on the manikin and its capabilities please visit: [Resusci Anne](http://simulation.mcmaster.ca)

---

**MegaCode Kelly**
**Quantity Available: 3**

MegaCode Kelly is a full-body, lifelike manikin designed for practice of advanced, difficult and obstructed airway scenarios and IV Therapy. When used with VitalSim Vital sign simulator; MegaCode Kelly allows cardiac defibrillation, pacing with or without capture and variable threshold, ECG interpretation over 1100 rhythm variations, measurement of non-invasive blood pressure, and the auscultation and recognition of heart, breath and abdominal sounds. VitalSim allows the use of pre-recorded vocal sounds, and live voice with a wireless microphone and logging and scenario functions.

For more information on the manikin and its capabilities please contact a Simulation Lab Technician:

Lisa Bonney  [bonney@mcmaster.ca](mailto:bonney@mcmaster.ca)  Ext. 20268

Brenda Chrysler  [bchrys@mcmaster.ca](mailto:bchrys@mcmaster.ca)  Ext. 22047
MegaCode Kid
Quantity Available: 2

MegaCode Kid VitalSim is a full body, lifelike manikin which realistically simulates a 6-year-old patient. It is specifically designed for training professionals in the practice of emergency care, patient handling and the transportation of the sick and injured.

For more information on the manikin and its capabilities please contact a Simulation Lab Technician:

Lisa Bonney  bonneyl@mcmaster.ca  Ext. 20268

Brenda Chrysler  bchrys@mcmaster.ca  Ext. 22047
SIMULATORS

Harvey - The Cardiopulmonary Simulator
Quantity Available: 1

The full-size manikin realistically simulates nearly any cardiac disease at the touch of a button by varying blood pressure, pulses, heart sounds, and murmurs.

For more information on the manikin and its capabilities please contact a Simulation Lab Technician:

Lisa Bonney  bonneyl@mcmaster.ca  Ext. 20268
Brenda Chrysler  bchrys@mcmaster.ca  Ext. 22047
The manikin-based system allows for the development of the psychomotor skills needed to handle ultrasound probes. The innovative software tools of Vimedix accelerate the development of the cognitive skills needed to interpret ultrasound images, make diagnoses and clinical decisions. Vimedix has three base modules to choose from: Vimedix Cardiac, Vimedix Abdo and Vimedix Ob/Gyn which supports simulation of transthoracic echocardiography (TTE), transesophageal echocardiography (TEE), general abdominal ultrasound, lung ultrasound, obstetric and gynecologic ultrasound.

- The most validated ultrasound simulator with scientific publications written by opinion leaders in peer-reviewed journals
- Supports TTE, TEE and abdominal/pelvic scanning, including FAST, on one platform
- Realistic mannequin with tactile features: depressible abdomen plus palpable thoracic and pelvic bony landmarks
- 3D augmented reality displays anatomy, organs, and surrounding structures in real time
- 2D ultrasound imaging, M-Mode and color Doppler available on all valvular pathologies
- Ability to obtain deep trans gastric view with TEE module
- Ability to utilize the 3D augmented reality display as the main screen view or split screen view with ultrasound imaging
- Ability to disable 3D augmented reality display to alter level of difficulty
- Ability to disable lung, rib and abdominal artifacts on ultrasound view
- Ability to toggle on-off each and every structure on the 3D augmented reality display
- Ability to adjust level of noise on ultrasound view to alter image quality and level of difficulty
- More than 100 cardiac and abdominal pathologies with ability to load pathologies in stealth mode
- Tutorial feature identifies and labels anatomical structures on 3D augmented reality display
- Target Cut Planes provide reference views to aid learners in correct probe positioning. These views consist of a reference ultrasound beam, reference probe, and reference ultrasound image in relation to the learner’s live ultrasound beam, probe position, and ultrasound image
- Comprehensive metrics record target cut planes so learners can practice in the absence of an instructor. The metrics feature tracks the time it takes to achieve a TCP as well as records the coordinates and other parameters from the learner’s probe use
- Ability to create reports as you scan, identical to a real ultrasound device, with automated calculations, drop-down menus and a flow consistent with a typical scanning protocol
- Ability to capture images, videos, reports and metrics with export to USB key
- Ability to connect the simulator to a projector and give great interactive presentations by scanning live on the VIMEDIX Ultrasound Simulator
PART TASK TRAINEES: Physical Examination Skills

Abdominal Examination Trainer

Quantity Available: 1

An anatomically accurate adult male torso, used to teach and practice the palpation, auscultation and percussion elements of abdominal or gastrointestinal (GI) examination. Ideal for OSCE preparation and assessment.

- Torso featuring abdomen, pelvis and lower part of thorax
- Bony landmarks include ribs, costal margin, xiphisternum, pubic crest and anterior superior iliac spines
- Interchangeable organs and pathologies of varying sizes:
  - 3 Livers: slightly enlarged, enlarged with smooth edge and enlarged with irregular edge
  - 2 Spleens: slightly enlarged and markedly enlarged
  - 2 Enlarged Kidneys
  - Distended Bladder
  - 2 Aortas: normal and aneurysmal
  - Set of 6 Abdominal Pathologies including 4 smooth masses and 2 irregular hard masses
  - Distension Set including ascites bag, gaseous distension bag, pump and foam insert
- Simplified representation of lower thoracic and lumbar spine
- Can vary respiratory movement of liver and spleen by the turn of a wheel
- Integral amplifier and surface mounted MP3 player allow training in auscultation of normal and high-pitched or obstructed bowel sounds, renal and aortic bruits - in variable locations
- Pulse bulb allows simulation of normal and aneurysmal aortic pulse
Strap on Breasts
Quantity Available: 4

For training in the examination of the breasts, axillae & clavicular regions and for the communication skills involved.

Skills:
- Professional-to-patient communication (Used with Standardized patients)
- Clinical breast examination techniques
- Identification of anatomical landmarks and lymph nodes
- Diagnosis of pathologies

Features:
- Soft tissue chest (including lower neck, clavicle, and both axilla) which attaches to the vest
- Soft tissue looks and feels realistic
- Breasts are of realistic weight with significant ptosis
- Supplied with normal nodes on one side and enlarged nodes on the other
Gynecologic Manikins
Quantity Available: 5

Eva is a lifelike female pelvis for developing diagnostic skills in gynecologic procedures through anatomical instruction, abdominal palpation and speculum instruction. This manikin eases the way into the clinical experience by allowing both comprehensive, stress free introduction of gynecological examinations, and the more advanced tactile comparisons of pelvic pathologic conditions in the classroom setting

- Detailed life-like anatomical features and references
- Interchangeable inserts: normal cervix and uterus, normal parous cervix, cervix with endocervical polyp, cervix with ectropion characteristics, cervix with neoplasia (carcinoma), pregnant 10-week uterus, and 2 adnexal masses.
- Bi-manual pelvic examination
- Palpation of normal and pregnant uteri
- Vaginal examination, including insertion of speculum
- Visual recognition of normal and abnormal cervices
- Uterine sounding
- IUD insertion and removal
- Distal end of vagina facilitates introduction of a female condom or sizing a 75mm diaphragm

Female Pelvic Examination Model
Quantity Available: 3

This model is a body cast soft silicone with anatomically correct Vagina, Cervix, Uterus and vaginal and uterine attachments. The model can easily be placed in Anteverted, retroverted and axial positions. Bimanual palpation, Pap smear, pessary fitting and endometrial biopsy (with specimen collection) and I.U.D insertion can all be performed. The model is so realistic that the external and internal oz can be felt as you pass through them.
Childbirth Model
Quantity Available: 7

This versatile childbirth simulator is used worldwide by healthcare educators. It not only provides an excellent simulation of the normal delivery experience for the student and educator, but also provides instruction in abnormal and multiple deliveries. It may be used for demonstration of the following obstetric procedures:

- Normal vaginal delivery
- Complete, frank and footling breech birth
- C-Section delivery
- Ritgens maneuver
- Episiotomy
- Vertex presentation
- Intrauterine manipulation
- Vertex/vertex, vertex/breech, breech/vertex, or breech/breech presentation in multiple birth
- Prolapse of umbilical cord
- Demonstration of placenta previa: total, partial, and marginal
- Normal delivery of Umbilical cord and placenta
- Palpation of fetal fontanelles
- Simulation suction of nose and mouth
- Removable diaphragm end plate for manual positioning of fetal baby/babies
- Removable stomach cover for positioning fetus
- Life-size pelvic cavity with major anatomic landmarks
- Hand-painted outline of boney pelvis
- Three soft vulval inserts for episiotomy exercises
- One baby boy and one baby girl, each with umbilical cord and placenta
- Anatomically accurate backbone and fontanelles on fetal baby/babies
Rectal Exam Trainers
Quantity Available: 2

A realistic representation of buttocks, anus and rectum allowing for the practice of diagnostic skills associated with rectal examination. An additional rectal examination perineum is included which contains 2 rectal pathologies.

Skills:
- Digital examination of prostate
- Digital rectal examination
- Insertion and use of anoscope and proctoscope
- 2 interchangeable perineum's: normal for prostate examination, pathology featuring polyp & carcinoma
- 5 interchangeable prostates: normal, bilateral benign, unilateral benign, bilateral carcinoma, unilateral carcinoma
- Carcinomas of prostates are hard to the touch
- When in use the prostate is hidden and cannot be seen by the trainee
- Prostates can be easily and quickly changed.
Male Pelvic Exam Trainers
Quantity Available: 4

Presents key anatomical features, both externally and internally, for teaching “Hands on” examination and diagnosis. The uncluttered design of the model enables learners to focus on essential anatomy and procedure.

- Learning examination procedure
- Normal anatomy, testicular abnormalities, abdominal and pelvic pain, dry catheterization
- Testicular examination
- Rectal examination
- Dry catheterization
- Gonads and vas deferens are present
- Realistic anus
- Can be used in two positions (supine and left lateral)
- Soft tissue elements are removable and replaceable – penis, bladder & prostate, perineum, testicles & bowel, abdominal wall
PART TASK TRAINERS: Specialized Skills

Adult Airway Management Trainers
Quantity Available: 6

This airway management trainer realistically simulates a non-anesthetized patient. It can also be used to demonstrate and practice intubations, ventilation, suction and bronchoscopy. Realistic practice is the key to developing proficiency in airway management skills. The Airway Management trainer’s lifelike upper torso and head simulates real-world complications when practicing a variety of intubation, ventilation, and suction techniques.

- Intubation
- Oral/nasal airway insertion
- Endotracheal tubes – insertion, securing and care
- Oropharyngeal and nasopharyngeal airways – insertion and suctioning
- Right mainstem intubation
- Retrograde intubation
- Oral and nasal fiberoptic intubation
- Oxygen delivery procedures
- Suctioning techniques
- Auscultation of lung sounds during ventilation
- Laryngospasm
- Laryngeal Mask Airway
- Positive pressure ventilation
- Realistic chest rise and fall
- Bronchoscopy
- Vomiting
- Bronchial intubation
- Esophageal intubation
- Mouth to mouth ventilations
- Ventilations with face shield
- Ventilations with pocket mask
- Ventilations with Bag-Valve-Mask
Pediatric Airway Management Trainers
Quantity Available: 2

The Pediatric intubation trainer realistically simulates the head and upper body of a six-year old hospital patient. It is specifically designed for learners in the field of pediatric airway management techniques.

- Intubation
- Oral/Nasal airway insertion
- Endotracheal tubes – insertion, securing and care
- Oropharyngeal and Nasopharyngeal airways – insertion and suctioning
- Suctioning techniques
- Positive pressure ventilation
- Realistic chest rise and fall

Neonatal Intubation Trainers
Quantity Available: 2

The Neonatal intubation trainer is a lifelike manikin head which realistically simulates that of a newborn baby. It is specifically designed for learners in the practice of oral and nasal intubation.

- Intubation
- Positive pressure ventilation
- Realistic anatomy of a newborn baby
- Bag-valve-mask ventilation
- Correct tube placement can be checked by practical inflation test
Difficult Airway Trainer
Quantity Available: 1

The deluxe difficult airway trainer features a manually inflatable tongue to simulate obstructed airway and is designed for training the management of difficult airways.

- Obstructed airway simulation
- Intubation
- Oral/nasal airway insertion
- Endotracheal tubes – insertion, securing and care
- Oropharyngeal and nasopharyngeal airways – insertion and suctioning
- Right mainstem intubation
- Retrograde intubation
- Oral and nasal fiberoptic intubation
- Cricothyrotomy
- Stomach auscultation to verify proper positioning
- Oxygen delivery procedures
- Suctioning techniques
- Positive pressure ventilation
- Realistic chest rise and fall
- Manual carotid pulses
- CPR- closed chest compressions
- Manually inflatable tongue to simulate obstructed airway
- Nasal fiberoptic intubation
- Lightwand intubation
- Combitube
- Abdominal thrust
Adult Multi-Venous IV Training Arms
Quantity Available: 10 total (6 male + 4 female)

Full-size lifelike arms, which realistically simulates that of a patient. Specifically design for training in the practice of venipuncture.

- Adult venipuncture
- Anatomy represented: Dorsal veins of hands (3), Cephalic, Median, Basilic, Antecubital
- IV Cannulation
- IV Infusion
- Realistic blood flashback
- Arm allows for digital pressure to stem blood flow
- Infusion Tube allows for volume IV fluids to be administered
- Skin is durable
- Veins last for up to 500 insertions of 21g needle
- Blood has been reformulated to improve leak resistance of veins. (Concentrated liquid to save you money and storage space).
- Can be used with vacuum blood collection systems, needle and syringe and IV cannulas
- Can be used for hybrid simulation and for professional-to-patient communication when using the optional Arm Harness
Cricothyrotomy Trainer

Quantity Available: 2

Designed for learning and practicing the technique necessary to perform an emergency cricothyrotomy. Paramedics, EMT’s, other emergency personnel and anesthesiologists all now have the opportunity to perfect their skills.

- Palpable landmarks include the cricoid and thyroid cartilage
- The prominetia laryngeal is prominent on the hyperextended neck
- All landmarks are accurately placed and allow for fast action

The CSBL has limited stock of kits for procedures, please contact either Simulation Lab Technician (Lisa Bonney bonneyl@mcmaster.ca or Brenda Chrysler bchryso@mcmaster.ca) for further details.
Vascular Access Training Pads
Quantity Available: 3 + 1 with nerve block capabilities

Branched 4 Vessel vascular access ultrasound training model is an excellent training phantom to help clinicians develop, practice and maintain the skills necessary for ultrasound guided venous access and arterial access procedures. This lightweight model is easily portable for travel and training where you want, when you want. Excellent for clinicians beginning to use ultrasound as well as more advanced users seeking more challenging vascular access insertion technique training. The branched vessels offer multiple training opportunities; independent linear vessels for initial training in addition to multiple overlapping branched vessels for more advanced ultrasound training.

- Extremely realistic imaging characteristics
- Constructed using Blue Phantom’s patented ultra-durable and realistic simulated human tissue providing users an extremely realistic training model
- Feels and cannulates like real human tissue
- Contains four vessels of various sizes including 4mm, 6mm, and 8mm branched vessels positioned at a variety of depths within the phantom
- Positive fluid flow when vessels are accurately accessed
- Self healing tissue
- Fluid can be injected into the model to verify needle tip location (automatically expelled)
- Convex surface contour offers a scanning environment similar to human body habitus
- Learn to acquire and interpret imaging of vessels used for venipuncture
- Gain imaging and procedural efficiencies using this realistic vascular access ultrasound training model
- Use with any ultrasound imaging system with appropriate transducer
- Size 7” x 5” x 2.5” (17cm x 13cm x 6cm) (L x W X H)
PICC with IV & Arterial Line Vascular Access Ultrasound Trainer

Quantity Available: 1

This model is designed for users interested in developing and practicing the skills associated with ultrasound guided PICC line placement, arterial line placement, and peripheral IV access. This Arterial, I.V. and PICC training model is intended to assist users in learning to place needles, guidewires and catheters in the brachial vein, basilic vein, radial artery, ulnar artery and superficial veins.

- Designed to match the acoustic properties of human tissue; will work with any ultrasound system
- Vascular Anatomy Includes:
  - Cephalic Vein
  - Radial Vein
  - Basilic Vein
  - Ulnar Vein
  - Medial Cubital Vein
  - Brachial Artery
  - Radial Artery
  - Ulnar Artery
  - Superior Vena Cava & Subclavian Vein (To verify catheter placement)
- Pulsating arteries via included hand-bulb

The CSBL has limited stock of kits for procedures, please contact either Simulation Lab Technician (Lisa Bonney bonneyl@mcmaster.ca or Brenda Chrysler bchrys@mcmaster.ca) for further details. Recommended needle size is between 18-21gauge and up to 7 Fr Triple-Lumen catheters.
Ultrasound Guided Central Line Trainer

Quantity Available: 2

This upper torso ultrasound guided central line placement trainer model with tissue insert allows users to develop and practice the skills necessary to gain proficiency in using ultrasound to guide central catheter insertions in the internal jugular vein (IJ), subclavian vein, and axillary veins, and has anatomical landmarks such as venous and arterial vessels as well as accessory boney structures.

The CSBL has limited stock of kits for procedures, please contact either Simulation Lab Technician (Lisa Bonney bonneyl@mcmaster.ca or Brenda Chrysler bchrys@mcmaster.ca) for further details.

Recommended needle size is between 18-21 gauge and up to 7 Fr Triple-Lumen catheters.

Specifications:

- Manufactured using Blue Phantom patented ultra-durable tissue and is extremely realistic in ultrasound imaging characteristics feels and cannulates like real human tissue
- Realistic and ultra-durable central venous access ultrasound training model excellent for training clinicians in the psychomotor skills associated with ultrasound guided central venous access procedures
- Developed with the goal of helping clinicians bridge the learning gap by allowing them to see the internal anatomical structures with their eyes as well as with ultrasound imaging
- Superb ultrasound imaging characteristics
- Ultra-durable self-healing tissue is extremely realistic in ultrasound imaging characteristics and feels like real human tissue
- Contains anatomically correct vascular anatomy of the right upper thorax and neck including the internal jugular vein, brachiocephalic vein, subclavian vein, axillary vein, carotid artery, subclavian artery, and axillary artery, as well as anatomical landmarks including the clavicle, the two heads of the sternocleidomastoid muscle, and the sternal notch
- Accommodates full threading of guide wires and catheters
- Venous and arterial fluids that are removed during central catheter insertions training are easily refilled using quick fill ports
- Hand pump for arterial pulse
- Positive fluid flow in the vessels provides users with immediate feedback when vessels are accessed
- Simulated blood fluids in the arterial vessels differ from the venous system allowing for users to easily verify successful venous access procedures
- Tissues match the acoustic characteristics of real human tissue so when you use your ultrasound system on our training models, you experience the same quality you expect from imaging patients in a clinical environment
Lumbar Puncture & Spinal Epidural Ultrasound Capable Trainers
Quantity Available: 2

Ultrasound compatible trainers include the lumbar vertebrae, iliac crest, spinous process, ligamentum flavum, the epidural space and dura with a reduction disc thickness for a training variation.

The CSBL has limited stock of kits for procedures, please contact either Simulation Lab Technician (Lisa Bonney bonneyl@mcmaster.ca or Brenda Chrysler bchrys@mcmaster.ca) for further details.

Recommended needle size is between 18-21 gauge and up to 7 Fr Triple-Lumen catheters.

- Excellent training platform for lumbar puncture, lumbar epidural, and cervical epidural procedures.
- Excellent for blind insertion techniques or using ultrasound for guided lumbar puncture and spinal epidural procedures.
- Superb for needle access as well as the placement of catheters.
- Can be positioned in the upright or lateral decubitus position allowing users to accurately position the model for appropriate training scenarios.
- External landmarks as the iliac crests can be palpated in the model to initially orient the user to the proper access points.
- Palpation of the spinous processes provides additional landmarks.
- Each spine tissue module is superb in its realism and contains the appropriate spinal segment, skin tissue, ligamentum flavum, epidural space, dura, subarachnoid membrane and subarachnoid space containing cerebral spinal fluid.
- Utilize for full procedural training including injecting local anesthetics, introduce the needle to the epidural space and/or subarachnoid space, thread catheters, infuse simulated anesthetics, and obtain manometer measurements.
- Realistic tissue response including the pop encountered when traversing the ligamentum flavum, loss of resistance when entering the epidural space, and the cerebral spinal fluid flow when the spinal cistern is accurately accessed.
- The cerebral spinal fluid pressures can be easily increased in order to simulate pathological scenarios during lumbar puncture procedures.
- The optional cervical/upper thoracic spine insert allows users to practice cervical epidural needle and catheter placements.
- Ultrasound can be used for identification of the optimal insertion points, angle of needle, insertion, and determination of the depth of the ligamentum flavum, epidural space and spinal cistern.

EQUIPMENT CATALOGUE August 2017
Lumbar Puncture Baby
Quantity Available: 1

The pediatric lumbar puncture trainer simulates a two-week-old infant that can be positioned either lateral or decubitus. The body form is anatomically correct with a partial iliac crest and umbilicus. The replaceable tissue has L3-L5 vertebrae with partial sacrum and the gluteal crest. Each tissue includes a spinal cord filled with simulated CSF and the epidural venous plexus filled with simulated blood.

Skill Development:
- Use of lateral decubitus and sitting positions for pediatric lumbar puncture
- Palpate external landmarks
- Proper technique for lumbar puncture (spinal tap) procedure on an infant

Features:
- Anatomically correct two-week-old infant with flexible body form
- Ultrasound compatible
- Visible and palpable landmarks include umbilicus, gluteal fold, iliac crest and vertebrae
- Insertion sites include L3-L4 and L4-L5
- Simulator can be positioned then flexed in the lateral decubitus or sitting position
- Flexible body form adds realism when flexing the infant – simulating moving the interspinous process from a neutral to open position
- Accurate needle placement allows for positive response and collection of simulated cerebrospinal fluid (CSF)
- Simulated epidural venous plexus and bony spinous process provides user with feedback for improper needle placement.

The CSBL has limited stock of kits for procedures, please contact either Simulation Lab Technician (Lisa Bonney bonneyl@mcmaster.ca or Brenda Chrysler bchrys@mcmaster.ca) for further details.
Arthrocentesis Training Model  
Quantity Available: 1

The Arthrocentesis Model is an anatomically correct task trainer that is perfect for performing arthrocentesis. The ultrasound compatible model represents an extended left leg and includes the patella, patella ligament, tibia, fibula, femur, synovial sac, and synovial fluid. Simulated synovial fluid can be removed from a joint cavity using either the medial or lateral approach and insertion sites include suprapatellar and parapatellar.

Skills Development:
- Use medial and lateral approaches
- Use suprapatellar and parapatellar insertion sites
- Learn to milk the suprapatellar pouch
- Palpating anatomic landmarks significant to the procedure

Features and Benefits:
- Ultrasound compatible tissue is durable and refillable
- Left leg model with a base visually showing the tibia and fibula (smaller) bones and replaceable tissue that can be refilled
- Anatomy includes: Patella, Patella ligament, tibia and fibula, femur, synovial sac or membrane, and synovial fluid (which can be left clear, or can be coloured red or yellow)
- Medial and lateral approaches
- Both suprapatellar and parapatellar insertion sites
- Ability to increase or decrease size of effusion with up to 60cc of fluid
- Palpable anatomy and realistic needle response

The CSBL has limited stock of kits for procedures, please contact either Simulation Lab Technician (Lisa Bonney bonneyl@mcmaster.ca or Brenda Chrysler bchrys@mcmaster.ca) for further details.
Paracentesis Ultrasound Training Model

Quantity Available: 1

Ultrasound guided paracentesis training model is designed to aid clinicians in the use of ultrasound to recognize intraperitoneal fluid collections and development of the psychomotor skills associated with ultrasound guided paracentesis procedures. The superb realism helps users learn to use ultrasound to identify appropriate anatomy and to guide needle and catheter placements in the mid abdominal region in a patient with intraperitoneal fluid consistent with hemoperitoneum, ascites or other pathological scenarios.

- Realistic and ultra-durable ultrasound guided paracentesis training model
- Excellent for training clinicians in the psychomotor skills associated with ultrasound guided paracentesis procedures
- Superb ultrasound imaging characteristics
- Ultra-durable self-healing tissue is extremely realistic in ultrasound imaging characteristics and feels like real human tissue
- Anatomically correct anatomy of the mid abdomen including the right lobe of the liver, small bowel, transverse colon, and peritoneal fluid collections
- Contains a variety of fluid pockets ranging in size from small, medium, and large allowing the user to begin their ultrasound training with easily obtainable fluid spaces and to progress to targeting smaller fluid collections as their skills progress
- Full lower torso from mid thorax to mid-thigh
- Intraperitoneal fluids that are removed during ultrasound guided paracentesis training are easily refilled using quick fill ports
- Positive fluid flow in the vessels provides users with immediate feedback when intraperitoneal fluid is accessed
- Multipurpose ultrasound imaging platform: available with femoral vessels and nerve options
- Tissues match the acoustic characteristics of real human tissue so when you use your ultrasound system on our training models, you experience the same quality you expect from imaging patients in a clinical environment
- Uncompromising image quality allows you to teach using sonographically accurate models
- Performs well using any ultrasound imaging system

The CSBL has limited stock of kits for procedures, please contact either Simulation Lab Technician (Lisa Bonney bonneyl@mcmaster.ca or Brenda Chrysler bchrys@mcmaster.ca) for further details.
Thoracentesis Ultrasound Training Model
Quantity Available: 1

This ultrasound training phantom aids users in developing and practicing the skills associated with a mid scapulary approach to ultrasound guided thoracentesis procedures. This model is excellent for assisting clinicians in gaining proficiency in using ultrasound to identify and guide needle and small gauge catheter insertions in a patient with pleural effusions for diagnostic and/or therapeutic purposes.

- Excellent for training clinicians in the psycho-motor skills associated with ultrasound guided thoracentesis procedures
- Ultrasound tissue module contains the chest wall superficial tissue, 6th, 7th, 8th, and 9th ribs and intercostal spaces, pleural cavity with lung and atelectatic lung, diaphragm, and superior spleen.
- Superb ultrasound imaging characteristics: extremely realistic in ultrasound imaging characteristics and feels like real human tissue
- Ultrasound tissue is ultra-durable; self-healing tissue offers a long life providing a low cost of ownership
- Positive fluid flow offers users immediate feedback when pleural effusion fluid is accurately accessed
- Pleural fluid that is removed during thoracentesis procedural training is easily refilled using a quick fill port – or automatically refilled using I.V. bag reservoir
- Ultrasound tissues match the acoustic characteristics of real human tissue so when you use your ultrasound system on our training models, you experience the same quality you expect from imaging patients in a clinical environment
- Excellent imaging characteristics using any ultrasound imaging system
- Practice using ultrasound system controls

The CSBL has limited stock of kits for procedures, please contact either Simulation Lab Technician (Lisa Bonney bonneyl@mcmaster.ca or Brenda Chrysler bchrys@mcmaster.ca) for further details.
Pericardiocentesis Ultrasound Guided Trainer

Quantity Available: 1

This simulator allows trainees to practice pericardiocentesis: inserting the needle under ultrasound guidance, piercing the pericardial sac and aspirating pericardial fluid.

- Ultrasound guided pericardiocentesis using subxiphoid or parasternal approach
- Patient positioning
- Visualization of pericardial fluid
- Palpation and identification of left xiphisternal junction (Larrey’s point) for needle insertion
- Insertion of needle in pericardial space
- Pericardial fluid suction
- Professional-to-patient training

The CSBL has limited stock of kits for procedures, please contact either Simulation Lab Technician (Lisa Bonney bonneyl@mcmaster.ca or Brenda Chrysler bchrys@mcmaster.ca) for further details.
Chest Drain & Needle Decompression Trainer

Quantity Available: 1

Designed to meet the specific requirements of healthcare professionals training in surgical or guidewire-assisted thoracostomy and thoracentesis. This product allows for a variety of chest drain insertion techniques to be performed including ultrasound-guided techniques.

- Representation of adult male thorax with arms raised
- Bony and soft tissue landmarks: manubriosternal joint, clavicles, ribs, pectoralis major and latissimus dorsi
- Internal ultrasound anatomy: diaphragmatic structures and collapsed lung
- Needle decompression of a tension pneumothorax (at both the 2nd and 5th intercostal space)
- Open, or cut-down chest drain insertion: recognition of correct position, surgical incision, blunt dissection through chest wall, perforation of pleura and finger sweep
- Suture of tube to chest wall
- Ultrasound-guided chest drain insertion (Seldinger-type), including insertion of needle under direct vision and ultrasonic recognition of chest structures
- Management of pleural effusion

The CSBL has limited stock of kits for procedures, please contact either Simulation Lab Technician (Lisa Bonney bonneyl@mcmaster.ca or Brenda Chrysler bchrys@mcmaster.ca) for further details.
OTHER EQUIPMENT

Ultrasound Machines
Quantity Available: 2

- GE Venue 40 Ultrasound Machine
- GE Logiq E Ultrasound Machine

Both machines have cardiac, vascular and abdominal probes available for use.

Welch Allyn Spot Vital Signs Devices
Quantity Available: 4

Measures non-invasive blood pressure (NIBP) Automatic, pulse rate, temperature, and SpO2
Bronchoscope

Quantity Available: 1

Bronchoscopy is a technique of visualizing the inside of the airways for diagnostic and therapeutic purposes. The Bronchoscope can be inserted through the airways usually nose or mouth, or occasionally through a tracheostomy.

**Diagnostic:**
- To view abnormalities of the airway
- To obtain tissue specimens of the lung in a variety of disorders. Specimens may be taken from the inside of the lung by biopsy, bronchoalveolar lavage, or endotracheal brushing
- To evaluate a person who has bleeding in the lungs, possible lung cancer, a chronic cough, sarcoidosis

**Therapeutic:**
- To remove secretions, blood, or foreign objects lodged in the airway
- Laser resection of tumors or benign tracheal and bronchial strictures
- Stent insertion to palliate extrinsic compression of the tracheobronchial lumen from either malignant or benign disease processes
- Bronchoscopy is also employed in percutaneous tracheostomy
- Tracheal intubation of patients with difficult airways is often performed using a flexible bronchoscope.
GlideScope Video Laryngoscopy System
Quantity Available: 2

The GlideScope Video Laryngoscope system incorporates a miniature, autofocusing, high resolution colour camera, an LED Light source, a rechargeable lithium battery, and NTSC video output for remote display or video recording. The GVL system is useful for anterior airways, neonatal intubations, obese patients, and patients with limited neck extension. Additionally, it is useful for teaching purposes, verification of endotracheal (ET) position, nasal intubation and ET exchange. The GVL is designed for “1st” pass success, they provide consistently clear view of a patient’s airway, enabling quick intubation.

GVL may be useful for the teaching the following procedures:

- First use intubations, replacing Direct Laryngoscopy (DL)
- Normal or restricted Oropharyngeal views/visualization and assessment of oropharynx
- Cormack-Lehane grades I-IV laryngeal views
- Trauma airways – excellent when dealing with blood and secretions in the airway
- Airway Management in morbidly obese patients
- Preterm or Neonatal intubations
- Cervical spine immobilization
- Intubation in Intensive Care Unit (ICU) settings
- Supervision and documentation of the laryngoscopy
- Nasal tracheal intubation
- Insertion of transesophageal echo cardiac probes
- Laryngoscopic for difficult airway management
- Insertion of double lumen tubes
- Teaching the anatomy of the airway
- Adult and Pediatric appropriate laryngoscope sizes available
Crash Cart with Zoll M Series Defibrillators

Quantity Available: 3

Fully stocked for use with adult or pediatric patients.
Sling Lift
Quantity Available: 1

Specifically, for lifting, repositioning and transferring residents who are limited in their mobility.

Ventilator (LTV 1200 Series MR)
Quantity Available: 1

- One ventilator for all patients 5 kg and above
- Invasive and Noninvasive modes of ventilation
- A wide range of ventilation therapies to meet demanding patient needs, including volume control, pressure control, pressure support and spontaneous breath types
- Excellent for use in emergency clinical situations as well as transport.
- Provides complete critical care ventilation in a small, lightweight, portable system.