



# Laerdal

helping save lives



## Advanced training in respiratory and critical care

### SimMan Critical Care

SimMan Critical Care offers versatile and comprehensive training in critical care, respiratory care, and anesthesia practice. Built on SimMan's trusted legacy in medical simulation, SimMan Critical Care seamlessly integrates ASL 5000™ technology to replicate any patient condition, immersing current and future clinicians in lifelike scenarios that allow them to master the skills needed to manage a critically ill patient.

Designed for in situ simulation, tetherless operation enables learners to progress through transitions of care from pre-hospital to ICU, practicing basic to advanced ventilation management for a cutting-edge training experience, aligning healthcare education with the demands of the evolving healthcare landscape.

# SimMan Critical Care

## RESPIRATORY SPECIFICATIONS

- Resistance - 3 to 150 cmH<sub>2</sub>O/L/s
- Compliance - 5 to 150 mL/cmH<sub>2</sub>O
- Breath rate - Passive to 100 bpm
- Patient effort - 0 to 50 cmH<sub>2</sub>O
- Inspiratory time - Rise time 0-100%
- Tidal volume - 800 mL
- Holds PEEP .20 cmH<sub>2</sub>O
- Simulate tracheal and L/R bronchial resistances
- Simulate independent inspiratory and expiratory resistances
- Simulate independent L/R lung compliance
- Tetherless respiratory function and control

## MULTIPLE AIRWAY SKILLS/FEATURES

- Controllable open/closed airway, automatically or manually controlled
- Head tilt/Chin lift
- Jaw thrust w/articulated jaw
- Suctioning (Oral & Nasopharyngeal)
- Bag-mask ventilation
- Nasal cannulation
- Orotracheal/Nasotracheal intubation
- Combitube, LMA, and other airway placement
- Endotracheal tube intubation
- Retrograde intubation
- Fiberoptic intubation
- Transtracheal jet ventilation
- Needle/Surgical cricothyrotomy
- Right main stem intubation
- Stomach distention

## AIRWAY COMPLICATIONS

- Detection of proper head position
- Can't intubate/Can ventilate
- Can't intubate/Can't ventilate
- Tongue edema
- Pharyngeal swelling
- Laryngospasm
- Decreased cervical range of motion
- Trismus

## BREATHING FEATURES

- Simulated spontaneous breathing
- Bilateral and unilateral chest rise and fall
- CO<sub>2</sub> exhalation
- Normal and abnormal breath sounds
  - 5 anterior auscultation sites
  - 6 posterior auscultation sites
- Oxygen saturation and waveform

## BREATHING COMPLICATIONS

- Cyanosis
- Needle thoracostomy – bilateral
- Unilateral & Bilateral chest movement
- Unilateral, Bilateral & lobar breath sounds
- Chest tube insertion - bilateral

## CARDIAC FEATURES

- Extensive ECG library
- Heart sounds – four anterior locations
- ECG rhythm monitoring (4 wire)
- 12 lead ECG display
- Defibrillation and cardioversion
- Pacing

## CIRCULATION FEATURES

- Oscillometric or manual BP measurement
- Carotid, femoral, brachial, radial, dorsalis pedis, popliteal and posterior tibialis pulses synchronized with ECG
- Pulse strength variable with BP
- Pulse palpation is detected & logged

## VASCULAR ACCESS

- Tibial IO (Articulating arms)
- Bilateral preported IV access
- Bilateral humeral IO, deltoid IM (RFID arms)
- IV access (right arm)

## CPR

- Compliant with current Guidelines
- Realistic compression depth and resistance

- CPR compressions generate palpable pulses, blood pressure waveform, and ECG artifacts
- Detection of depth, release and frequency of compressions
- Real time feedback on quality of CPR

## EYES

- Blinking - slow, normal, fast and winks
- Open, closed and partially open
- Pupillary accommodation:
  - synchrony/asynchrony
  - normal and sluggish speed of response

## OTHER FEATURES

- Interchangeable headskins
- SpO<sub>2</sub> measurement with pulse oximeter
- Seizure/Fasciculation
- Bleeding
  - Simulation of bleeding at multiple sites
  - Arterial and venous
  - Vital signs automatically respond to blood loss & therapy
  - Works with various wound modules & moulage kits
- Urine output (variable)
- Foley catheterization
- Secretions
  - Eyes and Ears
  - Blood, CSF, etc.
- Diaphoresis
- Bowel Sounds – four quadrants
- Patient Voice
  - Pre-recorded and custom sounds
  - Instructor can simulate patient's voice-wirelessly
- Instructor Communication
  - Multiple instructors communicate using integrated voice over IP
- Fully articulating pelvis
- Leg rotation in all natural directions

## PHARMACOLOGY

- Optional Automatic Drug Recognition System identifies drug & dose
- Extensive drug formulary
- Automatic or programmable physiological responses

## FEATURES

- Wireless instructor computer with LLEAP software
- Control multiple manikins from one interface
- Control simulation from anywhere on your network
- Use Manual Mode to run "on-the-fly" for total control over all parameters
- Utilize Automatic Mode with pre-programmed scenario for a simple and standardized way to run a simulation
  - Patient cases utilizing physiological and pharmacological models
  - Pre-programmed scenarios
  - Self-authored content
- Simulation controls; fast forward, pause, rewind, save/restore
- Profile editor
- Future prediction and patient outcome display
- Integrated video debriefing
- Time stamped activities, vital signs, and instructor comments are captured in the event log

## PATIENT MONITOR

- Touch-screen simulated patient monitor provides concise clinical feedback for physiological parameters
- The monitor's color screen is configurable and provides multiple simulated parameters, each presenting multi-level alarms
- Simulated parameters include ECG (2 traces), SpO<sub>2</sub>, CO<sub>2</sub>, ABP, CVP, PAP, PCWP, NIBP, TOF, Cardiac output, Temperature (core and peripheral), additional and programmable parameters e.g. ICP
- X-Ray Display
- 12 Lead ECG
- Custom Image Display
- Custom Video Display
- Oxygen saturation and waveform

## CERTIFICATIONS

- CE, FCC

## ORDERING INFORMATION

- 212- 05150-A / 05250-A / 05350-A (Medium, Dark, Light)
- 212- 05150-B / 05250-B / 05350-B (Medium, Dark, Light)
- 212- 05150-C / 05250-C / 05350-C (Medium, Dark, Light)
- 212- 05150-D / 05250-D / 05350-D (Medium, Dark, Light)

SimMan Critical Care is available in one of four configurations.

- A:** Full body simulator with articulating arms, NIBP and LiveShock
- B:** Full body simulator with articulating arms, NIBP, Defibrillation Studs
- C:** Full body simulator with RFID arms and LiveShock
- D:** Full body simulator with RFID arms and Defibrillation Studs

Includes: SimMan Critical Care Manikin, LLEAP Software and License, Wounds Kit, Specially Designed Clothing (Trousers and Shirt)

## COMPUTER OPTIONS

- 400-10201 Laptop Instructor/ Patient Monitor
- 400-09201 Tablet-PC Instructor/ Patient Monitor
- 400-09501 Rugged Tablet Instructor/Patient Monitor
- 400-29301 All In One Panel PC Instructor/ Patient Monitor

## OPTIONAL ACCESSORIES

- 212-07150 Rugged Carry Case
- 212-17975 Soft Carry Case
- 212-08175-L Amputated Leg Light
- 212-08175-M Amputated Leg Medium
- 212-08175-D Amputated Leg Dark

## Operation

SimMan Critical Care is operated by LLEAP and offers 4 computer and simulated patient monitor options.

Incorporate SimCapture for a complete debriefing solution.



## Simulation Solutions

SimMan's product ecosystem is designed to make advanced medical simulation available to everyone. Pairing SimMan Critical Care with partner solutions helps create an immersive and realistic simulation experience.

- **VitalsBridge** - Use your own clinical patient monitor during simulation training
- **Laerdal-SonoSim Ultrasound Solution 2.0** - Include diagnostic ultrasound featuring real cases with pathological findings into full-scale simulations

## Services

Laerdal offers comprehensive Educational Services to support your faculty competency development needs to optimize learning potential in your students, and Technical Services to help ensure your equipment is operational for maximum performance.

For more information, visit [Laerdal.com](http://Laerdal.com)

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