



Laerdal

helping save lives



Deliver highly realistic neonatology training

Paul

Every year, 15 million babies are born preterm. That equates to 1 in 10 babies that require high-quality care in a uniquely complex and time-sensitive process. Improve their outcomes with deeply immersive training driven by a representative, premature baby simulator combining lifelike anatomy with state-of-the-art technology.

High Emotion Simulation Paul is a true-to-life, representative 27-week premature baby simulator developed by a team of medical and design experts. Paul combines anatomically correct 3D-printed airways based on real-life preterm MRI scans, physiological and pathological breathing patterns, realistic internal structures, and lifelike facial and skin features.

Paul

Paul

- Preterm newborn
 - Gestational week: 27+3
 - Weight: 1100 g
 - Length: 35 cm
 - Head circumference: 26 cm
 - Highly realistic external and internal anatomy
 - Real hair
- Skin color changes to simulate cyanosis (blue) and hyperoxia (red)
- Completely wireless operation (WIFI)
- 3 hours of mobile battery use
- Battery indicator under the skin
- Ready-to-use package (incl. control laptop and patient monitor)

Airway and Breathing

- Highly realistic upper airway
- Oral and nasal intubation
- Ideal for training endotracheal intubation, LISA (MIST), and INSURE

Spontaneous Breathing

- Realistic and spontaneous breathing
- Spontaneous breathing with respiratory rate variable between 0 and 100bpm

Breathing Pathologies

- Infinitely variable lung compliance
- Inverted breathing

- Subcostal retractions
- Pathological breathing noises (e.g. grunting)
- Pneumothorax

Circulation

- Hypoxia and hyperoxia
- Silent palpable pulses on all four extremities (brachial and femoral) and umbilical cord
- Chest compressions with feedback
- Insertion of peripheral vascular accesses in all four extremities (exchangeable)
- Insertion of umbilical catheter and arterial lines (exchangeable umbilical cord)
- Optimized connector for umbilical cord

Audible Effects

- Crying
- Grunting
- Amniotic fluid

Stethoscope

- Position-dependent auscultation of breathing, heart, and stomach sounds via stethoscope (included)
- Anterior auscultation sites

Sensors

- Head position sensor
- Detection of the tube in the trachea or esophagus
- Detection of the tube depth

- Automatic left lung collapse during right mainstem intubation
- Effectiveness of chest compressions
- Sensor for pulse palpation
- Detection of umbilical cord transection
- Insertion of umbilical venous catheter with precise depth detection

Graphical User Interface (GUI)

- User-friendly interface with a sleek, intuitive design for effortless operation
- Real-time 3D animation of the manikin on the GUI
- Flexible control options via touchscreen or traditional keyboard and mouse
- Real-time display of all physiological and pathological processes and therapeutic interventions (e.g. mask ventilation and intubation)
- Seamless transfer of events and simulator status to the integrated debriefing interface
- Easily add annotations through the debriefing interface

Pre-Sets

- User configuration and fine-tuning of limits for head position, optimal tidal volume, chest movement, and strength of palpable pulses

Feedback Monitor

- Direct feedback for your trainees during orientation phase on head position, PEEP, PIP, tidal volumes, ventilation rate, depth and position of endotracheal tube, and efficiency of chest compressions

Preconfigured Patient Monitors

- Easily switch between monitor types via the trainer monitor: Dräger, Philips, Nellcor, and GE
- User-defined configuration and use corresponding to the interface of the original monitor
- Touch-screen function
- Various monitor sizes
- Pre- and post-ductal saturations
- Endtidal CO2 curve
- Motion artifacts in all curves

Scenario Design

- Pre-programmed symptoms (RDS, BPD, NEC, Bowel Distension, and Apnea)
- Intuitive scenario programming with a convenient quick-save feature
- Easy access to factory settings and scenario progressions

Transport

- Highly mobile system, designed especially for in-situ training

Fully-Equipped and User-Ready Platform includes:

1. Paul Preterm Simulator (incl. sleeping bag + small hat)
2. Transport case (trolley)
3. Silicone oil
4. Magnet
5. Stethoscope
6. Transport case top inlay
7. Simulator charging cable
8. Simulator power supply
9. Router power supply
10. Router
11. Transport case lower inlay
12. Country specific plugs for Trainer laptop and Patient monitor
13. Umbilical cords (x20) and belly button
14. Transport case lower inlay
15. Patient monitor including pre-installed vital signs software
16. Trainer laptop including pre-installed software (GUI)
17. Patient monitor power supply
18. Bluetooth mouse
19. Trainer laptop power supply
20. Inlay separator
21. Tube painting kit

Warranty and Maintenance Programs

Paul offers two- and five-year warranty and maintenance programs that extend past the standard one-year warranty - providing full coverage on parts and labor for the entire duration.

The two-year program includes one general refurbishment, while the five-year program provides two refurbishments over their respective terms. Each refurbishment consists of a complete functional check and preventative exchange of parts subject to wear and tear. Our service team performs all checks, maintenance, and repairs at a central facility. Shipping costs are fully covered, and a fully functional replacement system can be requested for the duration of the refurbishment or repair, subject to availability.

