Gaumard®
Simulators for Health Care Education

Leadership Through Innovation®

Pediatric HAL® S2225

Advanced Pediatric Patient Simulator

- Interactive eyes and active facial expressions
- Dynamic lung compliance with true ventilator support
- Real patient monitor support: SpO_2, EKG, capnography, NIBP, live pacing, and defibrillation
- Surgical airway, needle decompression, and chest tube
- Wireless and tetherless

Meet Pediatric HAL,

the world's most advanced pediatric patient simulator and the first capable of simulating lifelike emotions through dynamic facial expressions, movement, and speech. HAL is designed to help providers of all levels develop the specialized skills needed to effectively communicate, diagnose, and treat young patients in nearly all clinical areas.

Height: 44 inches

Immerse participants in the most engaging pediatric Simulation Learning Experiences™ yet.

Pediatric HAL includes 10 evidence-based scenarios designed to help you maximize participant' learning through outcome-focused simulated clinical patient encounters. A detailed written guide accompanies each scenario for setting up, planning, and facilitating the learning experience.

- Acute Lymphocytic Leukemia (ALL)
- Appendicitis
- Post-Op Cardiac Transplant
- Potential Organophosphate Poisoning
- Respiratory Syncytial Virus (RSV)
- Sepsis In A Six-Year-Old
- Seizure Management
- Status Asthmaticus
- Trauma Related To Child Abuse
- Four-Year-Old With Trauma

Introducing lifelike facial expressions and emotions—a revolutionary new level of interaction and richer patient-provider communication.

Through scenario-based learning, HAL can help participants assess verbal and non-verbal cues to build patient-provider communication skills and empathy.

HAL automatically turns head and eyes towards the approaching subject.

In addition to illustrating nearly a dozen facial expressions, HAL also simulates a variety of common emotional states to better approximate behavior. Simply set HAL's emotional state to lethargic, for example, and the eyelids will droop automatically, head movement will slow, and yawning will occur periodically.

What's more, the powerful UNI software lets you create your own facial expressions and emotions to expand the scope of the learning experiences. The UNI library includes the following presets to get you started:

- Anger
- Transient pain
- Ongoing pain
- Amazed
- Quizzical
- Worried
- Anxious
- Crying
- Yawning
- Lethargic

Ongoing pain

Transient pain

Crying

Horizontal head movement (Active robotics)

Truly comprehensive pediatric patient assessment exercises.

Interactive eyes and color-changing skin allow Pediatric HAL to illustrate signs of varying emotional states, trauma, and many other neurological diseases and conditions.

- Accommodation test: automatic horizontal tracking and manual vertical tracking
- Strabismus: exotropia and esotropia
- Nystagmus: eyeball twitching
- Blepharospasm: eyelid twitching
- Ptosis: eyelid droop
- Realistic idle eye movement
- Independent pupillary light reflex
- Mydriasis: blown pupil
- Anisocoria: unequal pupil sizes
- Programmable blinking rate
- Consensual pupillary light reflex
- Mild and severe seizures

Pallor

Jaundice

Automatic object tracking

Cyanosis

Redness

- High-fidelity heart, lung, and bowel sounds
- Independent normal/ abnormal heart sounds at aortic, pulmonic, and mitral sites
- Anterior and posterior lung sounds
- Spontaneous breathing and selectable normal and abnormal respiratory patterns
- Programmable unilateral chest rise and fall

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Practice using real patient monitors and sensors.

Pediatric HAL supports a broad range of real patient monitors and sensors. This unique capability allows participants to practice setting up and operating equipment just as they would in real situations.

- ECG/EKG monitors
- ECG-derived respiration monitoring support
- Oximeters
- Capnographs
- Defibrillators
- NIBP monitors
- Glucose meters

Real glucose testing via fingerstick

Real-time SpO_2 monitoring

- Palpable pulses: bilateral carotid, brachial, radial, femoral, and pedal
- Bilateral IV access supports sampling and continuous infusion
- Capillary refill time testing
- Blood pressure-dependent pulses
- Urethral catheterization with programmable flow

The next-generation in pediatric advanced life support simulation.

Thanks to its ultra-high fidelity anatomical and physiological features, Pediatric HAL supports the practice of advanced-level algorithms using real tools and clinically accurate techniques.

- Wireless and tetherless; fully functional during transport
- Anatomically accurate oral cavity and airway
- Surgical airway
- Laryngospasm and tongue edema
- Visible chest rise following guideline-recommended flow, PIP, and PEEP values
- SpO_2 and $EtCO_2$ monitoring
- Anterior/posterior defibrillation
- eCPR™ Real-time quality feedback and reporting
  - » Compression depth, rate, and interruption duration
  - » Ventilation rate and duration
  - » Smart CPR voice coach
  - » Performance report summary

Tracheal intubation detection

Supraglottic airways device support

Anterior/posterior defibrillation

Realistic chest recoil

Defibrillation, cardioversion, and pacing using real devices and live energy

Intraosseous infusion

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Left-midaxillary hemothorax site

Immersive skills-training in emergency intervention and management.

Pediatric HAL features surgical sites for needle decompression and chest tube insertion exercises using real instruments.

- Palpable and anatomically accurate bony landmarks
- Realistic skin supports cutting and suturing
- Chest tube site bleeds when cut and releases fluid upon tube insertion
- Tactile pleural "pop"
- Audible hiss during needle decompression
- Needle and chest tube insertion detection and logging

Chest tube insertion

Cutting and suturing

Audible air release "hiss"

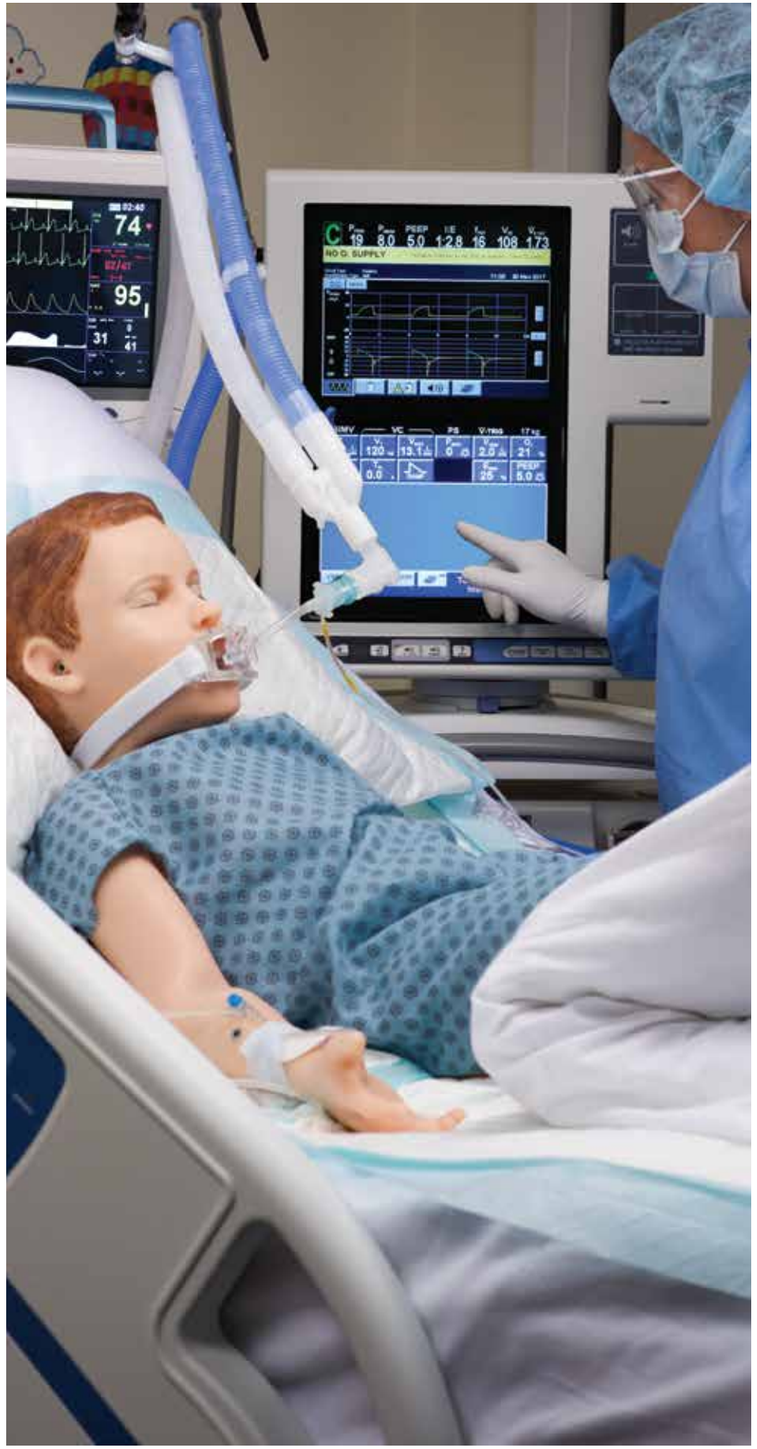
- Palpable cricoid cartilage and cricothyroid membrane
- Permits tracheostomy, cricothyrotomy, and retrograde intubation using real instruments
- Supports positive pressure ventilation via surgical airway
- Programmable difficult airway: laryngospasm and tongue edema

True mechanical ventilation support for advanced respiratory care simulation.

Pediatric HAL responds to mechanical ventilation support using real equipment just like an actual patient and can simulate the course of respiratory disease through treatment, weaning, and rehabilitation with the highest degree of physiological accuracy.

The patented dynamic lung system in Pediatric HAL requires no manual calibration, external intermediary adapters, or setup boxes. Simply connect HAL to the ventilator and tap the UNI controls to change lung functionality on the fly.

- Modes supported include: ACV, SIMV, CPAP, PCV, PSV
- Programmable respiratory patterns
- Supports therapeutic levels of PEEP
- Programmable airway and lung function
- Dynamic lung compliance
- Bilateral bronchi resistance
- Respiratory effort triggers ventilator during weaning
- No manual calibration, external intermediary adapters, or setup boxes required.



Pediatric HAL® S2225 | Advanced Pediatric Patient Simulator

Includes new Simulation Learning Experiences scenario package.

The new Pediatric HAL® Simulation Learning Experiences (SLEs) package provides you with a library of ready-to-use, evidence-based scenarios designed to help you maximize participant's learning through outcome-focused simulated clinical patient encounters. The package includes 10 SLEs complete with a facilitator's guidebook for planning, setting up, and facilitating each learning experience.

1. Acute Lymphocytic Leukemia (ALL)
2. Appendicitis
3. Post-Op Cardiac Transplant
4. Potential Organophosphate Poisoning
5. Respiratory Syncytial Virus (RSV)
6. Sepsis In A Six-Year-Old
7. Seizure Management
8. Status Asthmaticus
9. Trauma Related To Child Abuse
10. Four-Year-Old With Trauma

UNI® offers all the tools to deliver a rich simulation experience in one intuitive interface.

UNI features precise physiological touch-based controls, task automation, real-time feedback, and automatic data capture tools designed to help operators manage even the most complex scenarios.

Preconfigured and ready
Pediatric HAL is preconfigured and ready for use right out of the box.

Optimized for on-the-fly controls
The UNI touchscreen interface lets you quickly and easily adjust vital sign parameters with just a few taps.

3D patient visualization monitor
This real-time 3D view of the patient ensures you never lose track of provider/patient interactions during the simulation.

Scenario designer
Create your own scenarios quickly and easily and share them with other UNI users.

eCPR™
Monitor rate and compression depth, no-flow time, ventilation rate, and excessive ventilation. Smart trainer features vocal cues and outputs performance reports.

Lab report designer
Generate and share simulated diagnostic lab results to enhance case fidelity and participant involvement.

Questionnaire form designer
Manage progress by easily creating interactive checklists to track participant objectives and post-simulation feedback.

Time-stamped event recording and reporting
The automated event tracking and interaction recorder ensures important events are always captured so you can focus on the action.

Provider actions tracker
The interactive "Actions" panel lets you carefully track additional team and individual provider actions to generate a comprehensive post-simulation log.

UNI control view replay
The built-in recorder captures UNI's screen as data to allow your team to review the simulation from the operator's chair.

No annual software license fee
Gaumard is committed to providing the best value and keeping your program's operating costs down year after year.

Free software updates
Always stay up to date and take advantage of all the newest features at no additional cost.

Free webinar training and technical support
Sign up for our monthly webinar sessions and become a UNI expert.

Features and specs

General
- Height: 44 inches
- Tetherless and wireless; fully responsive during transport[1]
- The internal rechargeable battery provides hours of tetherless operation[2]
- Smooth and supple full-body skin with seamless trunk and limb joints
- Realistic joint articulation: neck, shoulder, elbow, hip, and knee
- Palpable bony landmarks
- Forearm pronation and supination
- Supports common patient positions including Fowler's, supine, and sitting
- Male/female patient conversion
- Tablet PC preloaded with UNI® included
- OMNI®2 ready
- Includes 10 preprogrammed SLEs and facilitator's guidebook

Neurological
- Active robotics simulate lifelike facial expressions including:
  - Anger
  - Transient pain
  - Ongoing pain
  - Amazement
  - Quizzical
  - Crying
  - Yawning
- Preprogrammed emotional states automatically express associated verbal and non-verbal cues without manual input
  - Worried
  - Anxious
  - Lethargic
  - Distracted
- Create custom facial expressions via UNI® interface
- Programmable jaw movement, bilateral or unilateral brow movement, and horizontal neck rotation
- Automatically turns head and eyes towards the approaching subject
- Stiff neck (torticollis)
- Interactive eyes: eyes can automatically follow a moving object
- Programmable blinking rate, pupil response, and bilateral and unilateral eye movement
- Independent, active pupillary light reflex
- Abnormal eye and eyelid movements: cross-eyed, nystagmus, eyelid twitching, eyelid droop
- Programmable crying/tears release real fluid
- Wireless streaming voice: be the voice of HAL and listen to participants respond in real-time
- Real-time voice modulation effects
- Automatic jaw movement synchronized with speech
- Seizures with selectable intensity levels
- 50+ prerecorded speech responses

Airway
- Anatomically accurate oral cavity and airway
- Supports nasotracheal/orotracheal intubation with standard instruments including endotracheal tubes and supraglottic airway devices
- Tracheal intubation detection
- Head tilt, chin lift, jaw thrust
- Supports esophageal intubation
- NG/OG tube placement
- Supports bag-valve-mask ventilation
- Realistic surgical trachea permits tracheostomy, cricothyrotomy, and retrograde intubation
- Programmable difficult airway: laryngospasm and tongue edema
- Selectable normal and abnormal upper airway sounds

Breathing
- Spontaneous breathing and selectable normal and abnormal respiratory patterns
- Variable respiratory rates and inspiratory/expiratory ratios
- Programmable unilateral chest rise and fall
- Unilateral chest rise with right mainstem intubation
- Real CO_2 exhalation: supports $etCO_2$ monitoring using real sensors and monitoring devices
- Selectable normal and abnormal sounds: upper right, front and back; upper left, front and back; lower right, back; and lower left, back
- Real mechanical ventilation support
  - AC, SIMV, CPAP, PCV, PSV, and more
  - Supports therapeutic levels of PEEP
  - Programmable variable lung compliance
  - Variable bronchi resistance
  - Programmable respiratory efforts for weaning/liberation
- Real-time ventilation feedback
- Visible chest rise during BVM ventilation
- Chest tube insertion: left midaxillary hemothorax site features palpable bony landmarks, realistic skin for cutting and suturing, tactile pleural pop, and fluid drain
- Needle decompression site features realistic tactile feedback and audible hiss
- Needle decompression and chest tube insertion detection and logging

Cardiac
- Includes comprehensive library of ECG rhythms with customizable beat variations
- Independent normal/abnormal heart sounds at aortic, pulmonic, and mitral sites
- Supports ECG monitoring using real devices
- Supports ECG-derived respiration monitoring (EDR)
- eCPR™ Real-time quality feedback and reporting
  - Time to CPR
  - Compression depth/rate
  - Compression interruptions
  - Ventilation rate
  - Excessive ventilation
  - Smart CPR voice coach
- Effective chest compressions generate palpable femoral pulses
- Defibrillate, cardiovert and pace using real devices and energy
- Anterior/posterior defibrillation sites
- Supports double sequential external defibrillation (DSED)

Circulatory
- Visible cyanosis, redness, pallor, and jaundice
- Supports capillary refill time testing above the right knee; test detection and logging
- Palpable pulses: bilateral carotid, brachial, radial, femoral, and pedal
- Blood pressure-dependent pulses
- Supports blood pressure monitoring using a real NIBP cuff and monitor
- SpO_2 monitoring using real devices

Vascular Access
- Bilateral forearm IV access supports sampling and continuous infusion
- Intraosseous infusion site at right proximal tibia
- Real glucose test readings via finger-stick

Gastrointestinal
- Patent esophagus
- Gastric distension during excessive PPV
- Bowel sounds in four quadrants
- Interchangeable male/female genitalia
- Supports urinary catheterization with fluid return
- Programmable urinary output

Pediatric HAL® S2225 | Advanced Pediatric Patient Simulator

A new level of realism for immersive simulation-based pediatric care training.

Pediatric HAL® S2225

S2225.PK

- Pediatric HAL® S2225
- Tablet PC preloaded with UNI®
- Pediatric HAL Simulation Learning Experiences scenario package
- Automatic Mode license
- RF module
- Battery charger
- Replacement chest tube and tension pneumo sites
- Defibrillation adapters
- Filling kits
- Accessories
- Rolling transport case
- User manual
- One-Year Limited Warranty
- 2, 3, & 5-year service plans available
- Patent; other patents pending.

GAUMARD VITALS™
Bedside patient monitor

S2225.001.R2

Gaumard Vitals™ bedside virtual patient monitor. Simulates 20+ dynamic numerical parameters and waveforms. Customizable interface.

GAUMARD VITALS™
Mobile patient monitor

S2225.002

Portable Gaumard Vitals™ virtual patient monitor. Simulates 20+ dynamic numerical parameters and waveforms. Customizable interface.

CARE IN MOTION™ MOBILE
Video-assisted debriefing system

CIM.PK

- Care In Motion Tablet PC
- 3 Battery-powered HD wireless cameras
- 3 Adjustable camera grips
- Transport case
- One-Year Limited Warranty
- Extended service plans available

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Warranty

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