



# HAL<sup>®</sup> S5301

Interdisciplinary. Immersive. Transformative.

International Edition

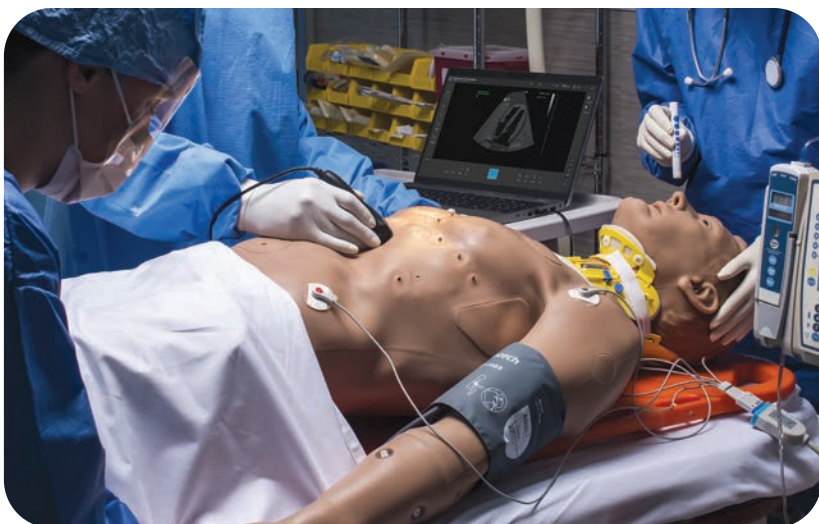


**Gaumard<sup>®</sup>**  
Simulators for Health Care Education



# Meet the world's most advanced interdisciplinary patient simulator.

From emergency care to ICU and med-surg training, HAL is engineered to fulfill educational objectives across clinical disciplines and blur the lines between simulation and real life. New lifelike motor movement, next-gen simulated physiology, UNI® 3, and many more industry-first capabilities usher in the next revolutionary leap in simulation.



## HAL legacy, innovation, and evolution.

HAL S5301 is the revolutionary next step of the HAL brand, trusted by top simulation programs worldwide. HAL S5301 continues the design philosophy introduced with the first HAL model launched nearly 20 years ago: to enable immersive training how and where care happens.



# Introducing a new level of fidelity in neurological emergency simulation.

HAL introduces the latest innovations in robotics to simulate lifelike symptoms of a neurological emergency and enable team-based training through patient assessment and treatment without interruption. New features like facial drooping and arm motor control reproduce the dynamic progression of a stroke, helping teams train time-dependent clinical skills and teamwork to improve performance.

## 1. Verbal and Nonverbal Communication

HAL S5301 combines streaming audio, facial expressions, and realistic movement to make interacting with providers more natural, helping them develop their understanding of more subtle patient cues.



## 2. Active motor function

Right arm motor reflex: shake hand, squeeze hand, raise arm, withdrawal response, and abnormal posturing. Head and eyes turn toward the provider speaking.

## 3. Abnormal eye movements

Consensual and nonconsensual pupillary response to light stimuli. Abnormal eye movements include strabismus, ptosis, and more.



## 4. Dynamic facial expressions

Lifelike facial droop and smiling, pained, quizzical, and scared facial expressions. Dynamic emotional states automatically express non-verbal cues including worry, anxiety, and lethargy.

## 5. Lifelike sensory response

Active pain response to pressure-sensitive sites: bilateral supraorbital notch, trapezius pinch (left shoulder), sternal rub, and right middle finger nailbed.



# Hospital trauma team training made immersive.

With new ultra-high fidelity anatomy and physiology, HAL supports the practice of advanced trauma care algorithms and essential surgical interventions using real tools and clinical techniques. Skin, bony landmarks, and internal tissue provide realistic tactile feedback to aid immersion and the development of transferable skills. Internal sensors provide you with real-time feedback on provider interventions while automatically recording event data for debriefing.

## 1. Chest tube thoracostomy

Realistic left hemo/pneumothorax site supports palpation, incision, chest tube insertion, tube placement detection, bleeding, and suture.

## 2. Surgical airway management

Anatomically accurate oral cavity and airway. Perform tracheotomy, cricothyrotomy, and retrograde intubation.

## 3. Abdominal bleeding wound

Penetrating abdominal wound responds to pressure and packing. Features internal, auto-refilling blood reservoir with 1.2-liter capacity.

## 4. Intraosseous access

Supports tibia and humeral intraosseous access and continuous infusion.

## 5. Real-time CPR performance feedback

Real-time quality feedback and reporting: Time to CPR, compression depth/rate, compression interruptions, ventilation rate, excessive ventilation, smart CPR coach.

## Trauma arm and leg

Optional trauma arm and trauma leg accessories feature bleeding wound and tourniquet placement detection.



# True-to-life imaging with Gaumard Ultrasound™.

Facilitate ultrasound training for the real-world through full-scale immersive emergency and trauma scenarios never possible before. Gaumard Ultrasound simulates the function and feel of a real portable ultrasound machine. Transducer range-of-motion is natural and imaging is dynamic and lifelike, allowing students and professionals to further develop imaging skills in team-based simulation.

The new HAL Emergency POCUS/eFAST module offers a comprehensive library of emergency ultrasound case imaging covering a wide variety of trauma presentations.





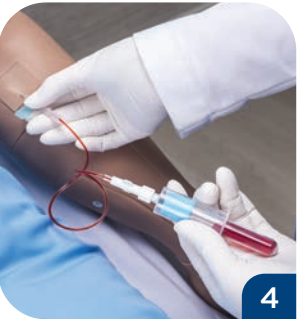


## The new gold standard in critical care in-situ simulation training.

HAL S5301 revolutionizes critical care simulation training in real environments thanks to its industry-leading compatibility with real patient monitoring devices and mechanical ventilators. Through powerful physiological features and software, HAL lets participants train in-situ with the same tools used in real situations to help improve skills and confidence.







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# Next-generation lung physiology and mechanical ventilator support.

HAL S5301 features our most advanced dynamic lung system design yet, capable of responding to mechanical ventilation with even greater physiological accuracy. HAL interfaces with real mechanical ventilators like a real patient and supports standard ventilator modes, including AC, CMV, SIMV, and PSV, as well as PEEP and weaning strategies. The patented internal lung design means no manual calibration, proprietary adapters, or expensive and stationary external converters.

### 1. Real patient monitoring

Monitor vitals using real equipment: RR, 12-lead ECG, IBP, BP, SpO<sub>2</sub>, TOF, and EtCO<sub>2</sub>

### 2. High-quality auscultation

New, high-quality library of lung, heart, and bowel sounds. Anatomically accurate auscultation fields.

### 3. Intra-arterial blood pressure monitoring

Radial arterial access site permits catheterization, flashback, sampling, and IBP monitoring; interfaces with real adjuncts, sensors, and devices.

### 4. Intravenous access

Features bilateral IV access sites, an antecubital vein blood draw site, and automatic virtual drug recognition on the lower left arm.

### 5. Blood glucose testing

Perform finger-stick glucose testing on the left index finger.

### 6. Train-of-Four monitoring

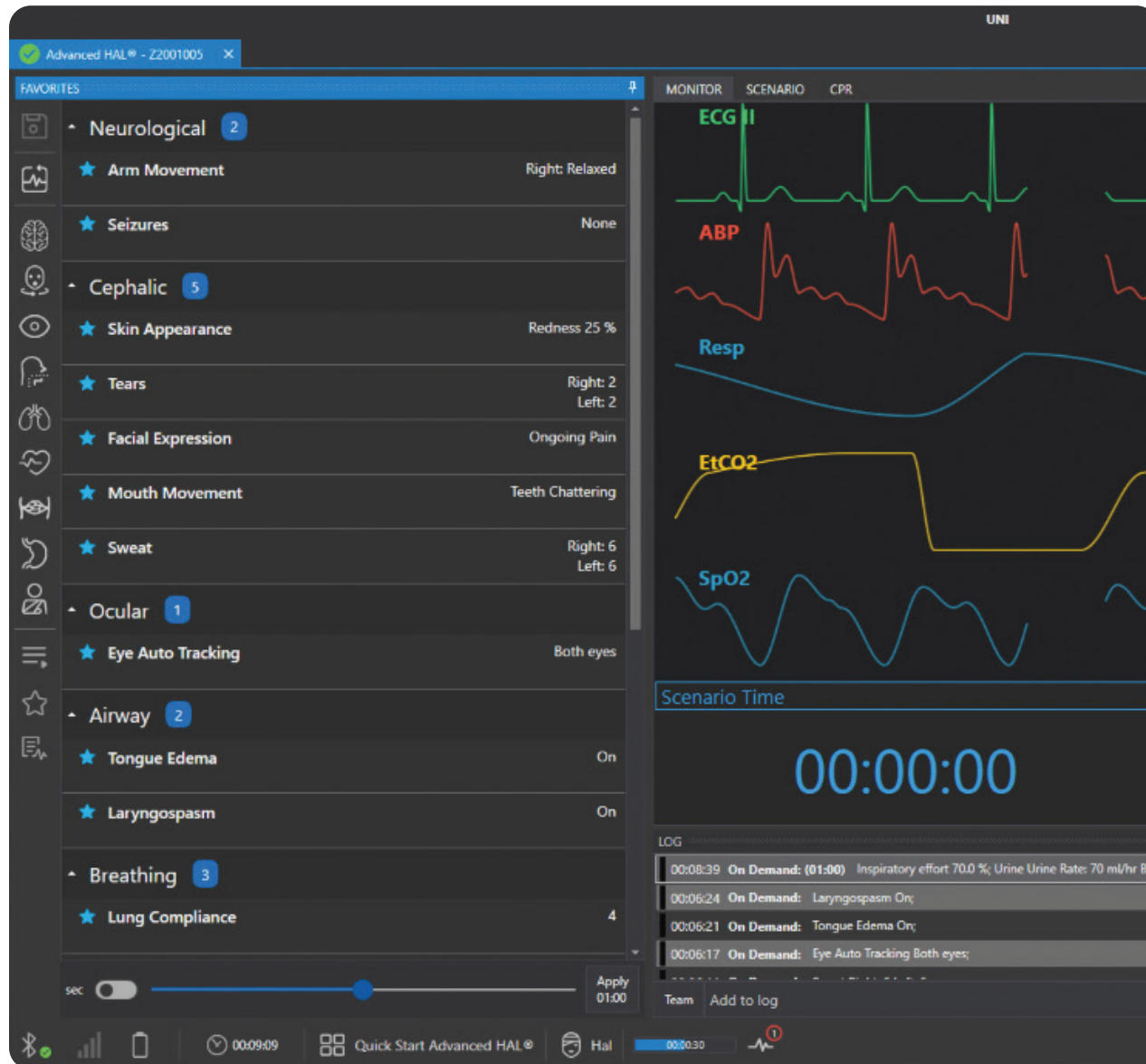
Supports Train-of-Four monitoring using real devices.

### Urinary catheterization

Features internal 0.7-liter urine reservoir with variable urine/blood output.

# Introducing the all-new UNI® 3.

UNI 3 is our most powerful and intuitive patient simulator control software ever. Manage vitals, track performance, and debrief with faster and more capable tools designed to help you drive even the most complex scenarios with ease.



## Built new from the ground up

UNI 3 is built on a new, modern software platform, improving performance and stability with a refreshed yet familiar design.

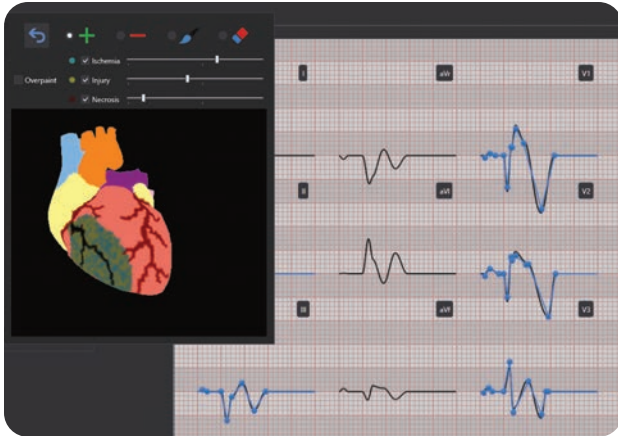
## New controls and tools

There are many new tools in UNI 3 designed to help you do more. User account management lets multiple facilitators store personalized settings, scenario builder features visual guides to aid planning, and new diagnostics tools ensure HAL is always operating optimally.

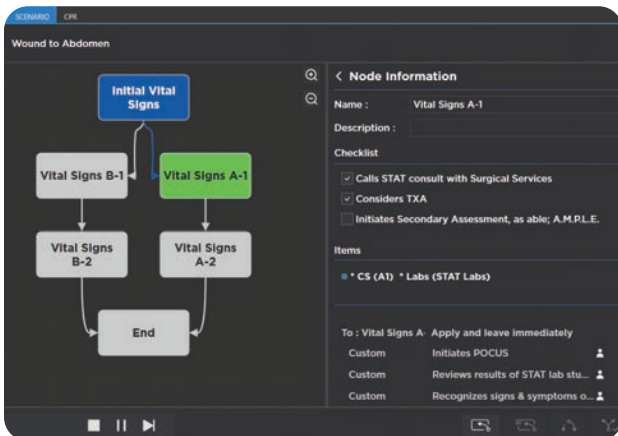
## Feedback for debriefing

UNI 3 interfaces with sensors in HAL to provide you with more detailed real-time performance and event data to aid assessment and debriefing.





The image shows a 'New Patient' form. It includes a profile picture of a man and fields for 'First Name' (Dustin), 'Last Name' (Jones), and a checkbox for 'Is default patient'. Below this is a 'Info' section with tabs for 'General', 'Path', 'History', 'Glasgow Coma Scale', and 'Labs'. The 'General' tab is active, showing fields for 'Street' (14970 SW 136 Street), 'City' (Miami), 'Zip Code' (33196), 'State' (Florida), and 'Country' (USA). Other fields include 'Height', 'Weight', 'Date of Birth' (5/9/1982), 'Birthplace' (Miami), 'Gender' (Male), and 'Relationship Status' (Married).



## Ready for training with the HAL® S5301 Simulation Learning Experiences™ package.

The HAL S5301 Simulation Learning Experiences (SLE) package provides you with a library of ready-to-use, evidence-based scenarios designed to help ease the facilitator's workload, increase realism, and standardize training.

The package includes accompanying UNI® preprogrammed scenarios that automatically manage the patient's vitals and a Facilitator's Guide book with comprehensive information for planning, setting up, and facilitating each SLE.

## Myocardial infarction designer 2

Simulate a myocardial infarction with the easy-to-use 3D heart model and monitor the resulting changes using a real 12-lead ECG device or design your own rhythm using the point-by-point PQRST wave editor.

## Patient profiles

The new Patient Chart lets you create simulated patients with detailed active and past medical histories. UNI seamlessly links medical chart data with Conversational Speech<sup>1</sup>, enabling HAL to answer assessment and medical history questions automatically.

## Scenario designer

Create scenarios tailored to your learning objectives and offer participants a wide range of standardized, repeatable learning events.

# HAL® S5301 Highlighted Features International

## General

- Height 5' 9" / 175 cm<sup>1</sup>
- Wireless and tetherless<sup>2,3</sup>
- Microsoft Surface Pro preloaded with UNI® 3 Unified Simulator Control Software
- HAL S5301 Simulation Learning Experiences™ scenario package
- Bluetooth, Gaumard RF, and wired connectivity<sup>4</sup>
- Compatible with Gaumard Ultrasound™
- Compatible with Care in Motion™
- Available in light, medium, or dark skin tone at no extra charge<sup>5</sup>

## Neurological

- Active eye movement and object tracking
- Wireless streaming voice<sup>6</sup>
- Active neck movement and mouth movement
- Active facial expressions; left facial droop, right facial droop, pained, quizzical, scared, smiling
- Active emotional states: normal, worried, anxious
- Right arm motor reflex: shake hand, squeeze hand, raise arm, withdrawal response, and abnormal posturing (decorticate/ decerebrate)
- Stroke clinical presentations: facial droop, weakness in the right arm, abnormal posturing, and pain response
- Pressure sensitive sites: bilateral supraorbital notch, trapezius pinch (left shoulder), sternal rub, and right middle finger nailbed
- Train-of-Four monitoring using real devices
- Partial tonic-clonic and non-tonic-clonic seizures
- Sweating (diaphoresis) and tears

## Airway

- Airway management: ETT, SGA, OPA, NPA<sup>7</sup>
- Tongue edema, laryngospasms, and pharyngeal swelling
- Tracheotomy, cricothyrotomy, and retrograde intubation

## Breathing

- Spontaneous breathing
- Four anterior and posterior lung auscultation fields; new lung sound library
- Supports standard mechanical ventilators, modes of ventilation, weaning/liberation protocols; no calibration, proprietary adapters, or external converter adjuncts required
- Variable lung unit compliance, variable, bilateral and unilateral bronchi resistance, Inspiratory effort and rate, respiratory drive, real CO<sub>2</sub> exhalation, Auto-PEEP
- Left hemo/pneumothorax
- Needle thoracentesis
- Presents capnography waveforms on real devices, including “shark fin” waveform

## Cardiac

- Aortic, pulmonic, tricuspid, and mitral auscultation fields and new heart sound library
- Monitor vitals with real devices: 4-lead ECG, 12-lead ECG, pulse oximeter, NIBP/IBP monitor, capnograph
- ECG-derived respiratory monitoring
- UNI® 3D Myocardial Infarction Model
- UNI® 12-lead ECG waveform designer
- Defibrillation and pacing with live energy
- Anterior/lateral and anterior/posterior defibrillator pad placement
- Real-time CPR quality feedback
- Bilateral palpable pulses: carotid, brachial, radial, femoral, popliteal, pedal
- Circumoral skin coloration
- Bilateral IV access sites
- Radial arterial access site supports catheterization, flashback, sampling, and IBP monitoring
- Antecubital vein blood draw site on left arm
- Automatic virtual drug recognition at lower left arm
- Fingerstick glucose testing on the left index finger
- Tibia and humeral intraosseous access and infusion
- Capillary refill time testing at right middle finger

## Genitourinary

- Male urinary catheterization with fluid return
- Computer-controlled urinary output rate and urine and/or blood mixture
- Internal, auto-refilling 0.7-liter urine reservoir

## Gastrointestinal

- Four bowel auscultation fields and new bowel sound library
- Gastric distention

## Trauma

- Internal, auto-refilling 1.2-liter blood reservoir
- Abdominal bleeding wound responds to pressure and packing
- Optional trauma arm and trauma leg accessories feature bleeding wound and tourniquet placement detection



Browse the full list of  
HAL S5301 features at  
[www.gaumard.com/](http://www.gaumard.com/)  
HAL-S5301



# HAL® S5301 - Advanced interdisciplinary patient simulator.



Available in light, medium, or dark skin tone at no extra charge<sup>5</sup>.

## HAL® S5301 - Advanced Interdisciplinary Patient Simulator Package (International)

**S5301-I.PK** ● ● ●

HAL S5301 patient simulator, Microsoft Surface Pro tablet preloaded with UNI 3.0, RF communications module, HAL S5301 Simulated Learning Experiences™ Scenario Package, Facilitator's Guide, abdominal wound insert, patient simulator accessories, 2-Year Limited Warranty<sup>8</sup>

## Gaumard Ultrasound™ System

**30081159A**

Package includes Gaumard Ultrasound laptop, transducer, Gaumard Ultrasound software license, and transport case.

## HAL® S5301 Emergency Ultrasound POCUS/eFAST Pathologies Module

**30081347A**

HAL S5301 Emergency Ultrasound POCUS/eFAST Module software license for Gaumard Ultrasound.

## Traumatic Right Arm Amputation

**30011856A**

Lower-right arm with traumatic amputation and pressure-sensitive bleeding site.

## Traumatic Left Leg Amputation

**30011859A**

Lower-left leg with traumatic amputation and pressure-sensitive bleeding site.

## Gaumard Vitals™ Bedside Virtual Monitor

**30080154B**

Bedside, customizable virtual patient monitor. Package includes preconfigured all-in-one PC and one Gaumard Vitals patient simulator license.

## Gaumard Vitals™ Portable Virtual Monitor

**30081003A**

Portable, customizable virtual patient monitor. Package includes preconfigured tablet PC and one Gaumard Vitals patient simulator license.

## Care in Motion™ Mobile Video Debriefing System

**CIM.PK**

Care in Motion Tablet PC, 3 battery-powered HD wireless cameras, 3 adjustable camera grips, and transport case. One-Year Limited Warranty.

# HAL<sup>®</sup> S5301

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**Gaumard<sup>®</sup>**  
Simulators for Health Care Education

**Gaumard.com | Worldwide 305.971.3790 | Toll-Free USA & Canada 1.800.882.6655**

1. Patient simulator approximate physical dimensions: height 5' 9" / 175 cm, weight 135lbs / 61kg. 2. Maximum wireless range will vary depending on environmental factors and conditions. 3. Battery life estimates are dependent on active features and settings; results may vary. 4. Some audio features are not available in long-range RF wireless mode. 5. Skin tone selection is available at the time of order only. 6. Streaming voice wireless range is dependent on environmental factors and conditions, including Gaumard RF link strength and interference. 7. Dry exercises only; fluid insertion into the nasal and oral cavity is not supported. 8. Warranty coverage, service, product installation, and training may not be available in all areas or countries. See authorized distributor for details. Product design is subject to change without notice. All trademarks and/or copyright materials are the property of their respective owners. Patented; other patents pending. © 2023 Gaumard Scientific. All Rights Reserved. 1190162A