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# Simulation Lab Handbook

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## Definitions

Prebriefing: Activities planned prior to simulation in order to prepare students for the simulation experience

Monitoring: Viewing the simulation from any viewing room in real-time

Debriefing: Activities planned after the simulation

Playback: Playing recorded video from the simulation experience either with the students completing the simulation and/or the entire class

# Faculty Simulation Lab Use Guidelines

1. Scheduling

Scheduling is done on a first-come, first-serve basis via the Sim Lab-416 Calendar on Outlook Exchange. Room 416 is automatically booked when the Sim Lab is booked unless faculty indicate they do not need Room 416. Room 416 cannot be booked for anything other than simulation unless the Sim Lab is being used *without* 416 by another faculty.
Faculty may be expected to be flexible with their simulation time. If scheduling conflicts arise, the determination of simulation use will be decided by the Simulation Lab Coordinator. Scheduling conflicts may be managed with splitting the use of the simulators or utilizing the Sorrell Center when possible. Faculty cannot use the Sim Lab for purposes other than high-fidelity simulations.

When scheduling requests are made, faculty must indicate:

- Course for simulation
- # of students
- Use of Hal or PediHal or Both or neither
- Use of 416 (yes/no)
- Need for assistance by coordinator or Super User
- Specific requests (not setup) for supplies
- Optional: Copy of scenario and/or schedule of use/description of use (attached as a Word or PDF document)

2. Faculty Preparedness for Simulation

It is expected faculty will prepare their own simulation scenarios. Faculty may seek assistance from the Simulation Lab Coordinator prior to the event and if notified in advance, ask for assistance on the day of event.

- Scenario writing. Faculty must write their own scenarios for the simulation experience. It is expected faculty seek assistance from Sim Lab Coordinator if they are unsure how to write scenarios for simulation (including ideas for scenarios and using the simulation software).
- Technology. If faculty are unsure how to use the technology (monitors, debriefing videos, etc) for the simulation lab, it is expected they seek assistance from the simulation lab coordinator or super users prior to the day of the experience.

- Equipment. Faculty must read the "Care and Caution" from the Hal simulator before using. Do not use betadine, markers, or pens on manikins. Use only the provided silicone oil for lubricant.
  Faculty are expected to setup and tear down for the simulation experience on the day of the event. Faculty must make requests for equipment not stocked in the simulation or skills lab at least two (2) weeks prior to the event. Faculty may request and use the assistance of the Simulation Lab Coordinator for setup and tear down during normal business hours (8am-4pm). Setup and tear down assistance may be requested outside of normal business hours if planned in advance.

3. Facilitation
   Faculty are expected to facilitate their own simulations (prebriefing, simulation, debriefing). Faculty may request and receive assistance from the Simulation Lab Coordinator if available.
   Faculty are expected to orient students to the simulation manikins and room to prepare students for simulation.
   Faculty are expected to notify students of concepts/objectives that should be met or will be reviewed during simulation.

4. Student Evaluation/Assessment
   Faculty are expected to continually assess students for professionalism regardless of the purpose of the simulation.
   Faculty should make students aware of simulation experience requirements and if they will be evaluated/assessed on certain skills/knowledge/competencies/etc.
   Faculty should not have real-time viewing of simulation experiences for other students if the simulation is being used for evaluation/assessment (i.e. viewing in debriefing room).

5. Video Recording/Playback
   Faculty must make students aware they are being videotaped at all times.

   Faculty must obtain written consent (see attached form) if the simulation experience video is to be used outside of current class (i.e. College presentation, outside presentation, facilitation examples) from all students participating in simulation video.

# Student Simulation Experience Expectations

1. Professionalism

Students must act in a professional manner at all times while in simulation or the debriefing room for prebriefing, monitoring, debriefing, or playback.

2. Dress

   Student dress during simulation is per faculty discretion while keeping the following guidelines in mind:

   For clinical hours:

   - Students should be dressed in appropriate clinical attire if simulation is planned for clinical makeup or during normal clinical hours.

   For theory:

   - It is per the discretion of the faculty how students are to be dressed in the simulation lab. The expectation is that students remain professional and treat the simulation as a real patient experience.

   For skills lab time:

   - It is per discretion of the faculty how students should dress for the simulation experiences EXCEPT when the student is being evaluated/assessed to meet major clinical competencies (I.e. Major = head-to-toe assessment, Minor = dressing change).
     - Students are expected to dress either in clinical attire or professional dress (business casual or the appropriate attire with the Clarkson College polo) when evaluated/assessed for competency.

3. Real-Time Viewing and Recording

   Faculty may allow students to view other simulations from the debriefing room. This viewing will not occur when students are assessed/evaluated for competency especially on an individualized basis. Students viewing the simulation should remain professional at all times and not make comments regarding the students completing the simulation experience.

   Faculty have the right to record simulations for playback.

   - Faculty may use playback for debriefing purposes in group situations.
   - Faculty may use playback for one-on-one student discussion when used for assessment/evaluation of individual students.

   Faculty may ask to use video playback in circumstances outside the class that conducted the simulation experience. Faculty are to ask permission and obtain waivers from participating students for playback outside of the class in which it was conducted (see attached form) (i.e. facilitator development, college presentations, conferences, etc.).

4. Manikin Use and Simulation Lab Conduct

   - Do not use betadine, markers, or pens on manikins. Use only the provided silicone oil for lubricant.
   - Students are to act as if they are in a real patient situation keeping in mind safety and infection and HIPAA regulations.

- Students are to remain confidential and professional regarding the performance of other students during and after simulation experiences.
- The manikins do not have Latex on the outside of them, but students should notify their instructor(s) if they have a latex allergy.
- Students are to come prepared for simulation including having the necessary materials (i.e. stethoscopes for nursing students).
- There is no food or drink allowed in the simulation lab except for prop purposes.
- Faculty and staff have the right to remove students from simulation experiences if conduct is violated.

Sources for Guideline Development:

Jeffries, P. (2012). *Simulation in Nursing Education: From Conceptualization to Evaluation* (2nd ed). New York: National League for Nursing

Missouri Southern State University. (n.d.). Policy and procedures manual: Simulation center for interdisciplinary clinical education

Phoenix College. (n.d.). Policies and Procedures for the Simulation Center at PC.

University of Alabama. (n.d.). LRC Simulation Lab Policies for Students and Faculty. http://www.uab.edu/nursing/home/technology-distance-education/sim-labs

University of Texas. (2013). Sim Lab Policies. http://www.utexas.edu/nursing/simlab/html/policies/

Wayne State College, College of Nursing. (2014). Policies and Procedures. http://www.nursing.wayne.edu/simlab/policies-procedures.php

Reviewed by the following Committees:

Academic Council

Faculty Senate

Student Services

Faculty Senate Handbook

Faculty and Student Issues

# Simulation Video Student Waiver

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**TERMS OF AGREEMENT & AUTHORIZATION**

I, _____ , allow Clarkson College faculty and/or administration

to utilize the simulation video in which I participated outside of the class in which it was conducted. This includes but is not limited to conferences, college presentations, facilitator training, etc.

_____ _____

STUDENT SIGNATURE DATE

_____ _____

FACULTY MEMBER SIGNATURE DATE

# HAL (S3201 Care and Caution)

# Overall Warnings

**Damage caused by misuse may void the manufacturer's warranty. Failure to comply with the following guidelines could result in injury or damage to the equipment.**

## Set Up

When connecting the battery to the simulator, make sure to match the two color-coded connectors to the corresponding color-coded battery terminals.
Do not use universal AC adapters. Only use the AC adapter supplied with the simulator.
NEVER disconnect the communications module while the GIGA software is running. The software will halt, and the module may be damaged.
Do not remove the chest skin. Internal components are serviced by Gaumard certified technicians only.
Never connect HAL to Ethernet cards, LAN networks or unauthorized diagnostic equipment. Doing so may cause damage to the system.
Do not connect the RJ45 cable directly to the tablet's Ethernet port. Wired communication can only be established using the RF module wired port.
Turn HAL OFF before replacing the battery. Failure to do so could result in serious damage to the system.

## Storage

Store HAL® in a cool, dry place. Extended storage above 85 degrees Fahrenheit (29 Celsius) will cause the simulator to soften and slowly warp. It is acceptable to *operate* HAL® at an ambient temperature of 95 degrees Fahrenheit (35 Celsius).
Do not store the simulator with a discharged battery. It is good practice to re-charge the battery at the end of every simulation session. In addition, make sure the battery is re-charged at least once every 3 months even if the simulator is not being used; otherwise permanent loss of capacity might occur because of self-discharge.

## Procedures

Do not intubate without lubricating the airway adjunct with silicone oil lubricant (provided). Failure to do so will make intubation very difficult and is likely to result in damage.
Providers must use an empty syringe when simulating drug administration via endotracheal tube. Passing liquids into the trachea or esophagus may cause internal damage.
Mouth to mouth resuscitation without a barrier device is not recommended, as it will contaminate the airway.
Treat HAL® with the same precautions that would be used with a real patient.
Do not turn HAL's head sideways while laryngospasm is on. Doing so may damage the mechanism that closes the larynges.
Always dispose of system batteries in compliance with local laws and regulations.
Do not perform surgical exercises on the ventilation insert.
Only replace trauma limbs when HAL is powered off or in standby mode.

## Mechanical Ventilation

Always follow the mechanical ventilator's guidelines and precautions.
HAL is not designed to test the performance, functionality, and accuracy of a mechanical ventilator.
Do not change the mechanical ventilator settings while the simulator is adjusting lung compliance parameters.
Do not introduce liquids, humidified gases or administer aerosol medications into the airway. Moisture in the airway will damage the simulator's internal mechanics.
HAL's operating limitations are consistent with that of a real human. Treating HAL in a manner that would seriously harm a real person is likely to result in damage to HAL's internal mechanics.
Always treat HAL as a real patient.

## IV arm, drug recognition and needle decompression

Only use Gaumard's provided simulated blood. Any other simulated blood containing sugar or any additive may cause blockage and/or interruption of the vasculature system.
The use of needles larger than 22 gauge will reduce the lifetime of the lower arms' skin and veins.
The simulator must be powered on when working with the drug recognition arm. This includes calibration, purging, draining, IV infusion, Set Med Id and injecting fluids. Failure to do so will permanently damage the simulator and void the warranty.
You must always have water in the IV vasculature for the drug recognition module to work.
Do not inject fluids into the intramuscular sites.
Do not add liquids to the hemothorax sites. Doing so will damage the simulator and void the warranty.
Use only Gaumard's provided simulated blood. Any other simulated blood brand containing sugar or any additive may cause blockage and/or interruption of the vasculature system. **HAL S3201 S3101 S3000**

Maximum amount of fluid injected without draining should not exceed 40 mL and the maximum injection rate is 9999 mL/hr. At the end of every simulation session, you must purge the IV system with clean water with the simulator powered on. If the drug recognition arm is not going to be used for long periods of time (a week or more), purge the system with 70% isopropyl alcohol solution. Failure to do so may permanently damage the system.

## Consumables

When the arm veins require replacement, contact Gaumard to arrange for a lower arm exchange. For a small fee, we will deliver reconditioned and warrantied lower arm assemblies to your facility. After receiving the replacement arms, use the same box and the enclosed shipping label to return the old arms to Gaumard. For international and express service, additional fees may be charged. Refer to the Consumables and Replacement Parts section of this guide, and contact customer service for more information.

## Latex warning

Vein tubing contains latex, which may cause allergic reactions. Users allergic or sensitive to latex should avoid contact. Discontinue use of this product and seek medical attention if an allergic reaction occurs.

## $CO_2$ Cartridge

Always comply with your organization's policies on the use and handling of compressed gases.
Never point the $CO_2$ cartridge at yourself or others.
Remove the $CO_2$ cartridge only when the LOW $CO_2$ warning is displayed on the main screen.
Do not use damaged $CO_2$ cartridges.
Do not over tighten the cartridge into the harness adapter.
Do not puncture the cartridge $CO_2$ seal manually.
Do not expose the $CO_2$ cartridges to high temperatures.

## Cleaning

HAL should be cleaned with a cloth dampened with diluted liquid dishwashing soap. If medical adhesives remain on the skin, clean with alcohol wipes. **DO NOT USE "GOO GONE®"** as the citric acid in the formula will cause pitting of the various materials comprising your simulator.
HAL® is "splash-proof" but not water-proof. Do not submerge or allow a large volume of fluid to enter the interior of the simulator.
Do not expose the control computer to water or excessive dust unless it is protected by a rugged case (available separately). **HAL S3201 S3101 S3000**

# Electrical therapy

## ECG Monitoring and Electrical Therapy

Defibrillation is only allowed on the large sternum and apex sites, circled **RED** below. NEVER deliver a shock to ECG electrode targets on the shoulders or waist, marked **GREEN** below. Doing so will not create a fire hazard, nor is there risk of shock to the provider, but internal damage in HAL may result. This situation is considered improper use and is NOT covered by the HAL warranty.

There are inherent dangers in the use of some medical devices. For simulations that incorporate electrical therapy of any kind, always know your equipment, and follow the device manufacturers' safety guidelines. Always treat HAL as a real patient.

**ECG and electrical therapy checklist and warnings:**

 Only deliver electrical therapy when the simulator is fully assembled, dry, and undamaged.

 Make sure the defibrillation patches on the simulator are in good condition, including removing any and all gel residue on the defibrillation patches from previous use(s). It is a good practice to remove gel residues after every use. Failure to do so will leave behind a film of electrode gel that hardens causing arcing and pitting.

 Do not re-use the gel-adhesive pads. Do not leave them on for next day use.

 Use hard paddles or wet-gel pads preferably. Avoid using solid-gel pads since they present higher risk of burning the simulator’s skin.

 Gel pads have a shelf life. Make sure they are not expired to avoid arcing.

 Make sure the simulator is not in contact with any electrically conductive surfaces.

 Use the simulator only in a well-ventilated area, free of all flammable gases.

 **NEVER** attempt to service or modify any of the electrical connections, especially those between conductive skin sites and the internal electronics. Discontinue use if any wires are found exposed with damaged insulation.

 Real medical products, especially electrodes, sometimes use powerful adhesives that can be difficult to remove. A gentle, degreasing cleanser may be needed. Refer to Care and Cautions for more information.

 Electrode gel on the skin between any two electrode targets can become a pathway for electrical current, just as in real life. If this occurs, HAL's skin can be burned.

 Do not allow defibrillation pads to overlap ECG sites. Doing so will may damage the simulator and cause arcing.

 Should dark traces appear on the conductive patches due to gel residue or previous arcing, use a pencil eraser to remove the traces and then clean with alcohol.

 **DO NOT SCRATCH** the conductive patches with abrasive objects; doing so will cause irreversible damage to the conductive sites and subsequently cause arcing.

## Syllabus Insert

Simulation may be used as a teaching/learning technique for this course. Please refer to the Simulation Lab Handbook for student guidelines of simulation experiences.

## Handbooks Insert

Simulation may be included in your coursework while at Clarkson College. Please refer to the Simulation Lab Handbook for student guidelines of simulation experiences.