



How to Hide  
ALS Man  
Peripherals

PAGE 3



Troubleshooting  
Missing Pulses

PAGE 4



Can You Hear  
Me Now?

PAGE 5



Testing Your  
SimMan Classic's  
Lungs

PAGE 7

**SimTech  
Special Edition**



**1994-2014**  
**WISER**  
**20 Years** of Simulation Improving Healthcare

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## WISER to Host SSH SimOps Regional Symposium

SimOps Pittsburgh: Celebrate Simulation Technology is presented by the Society for Simulation in Healthcare, this is THE Sim Ops Conference for techs, by techs that will be hosted by WISER on July 11 and 12, 2014.

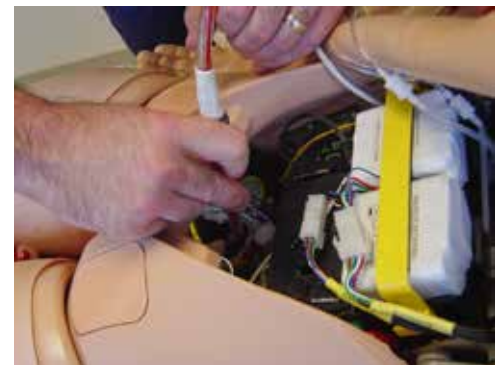
The first SSH Sim Ops Symposium boasted over 280 attendees – the largest gathering of healthcare simulations operations and technical professionals ever! As a professional in the emerging field of simulations operations, you cannot afford to miss SSH Sim Ops Pittsburgh 2014.

Dedicate two days to Sim Ops for an educational encounter like no other. At the symposium you will be involved in:

- Hands-on experiences led by experts.
- Network with sim techs from around the nation.
- Basic to advanced level interactive workshops.

Topics to be covered include:

- Moulage
- Preventative Maintenance
- inSitu Simulation
- AV Solutions
- Scenario Development
- And much more!!!



Registration for SSH Sim Ops Pittsburgh will open in April. Plan ahead to take advantage of the Early Bird discount.

### Registration Rates:

\$245 – Early Bird Rate ends June 12 at 5:00 pm EST

\$295 – Registration

For further information regarding the Symposium, please visit: <http://www.wiser.pitt.edu/simops2014>

## ASK OPS

### How do I remove ink from a manikin?

#### Benzoyl Peroxide

- Dab a generous portion onto the ink; allow to set for 24 hours and remove with a wet cloth.

#### Mr. Clean Magic Eraser

Follow directions on the box for removing spots; this should help remove the ink.

## DID YOU KNOW?

WISER has a YouTube page that has instructional videos for operations of a simulation center as well as “how-to” technical demonstrations on mannequins and software.

For a full list of videos, visit: <http://www.youtube.com/user/wiseruser>



## Good Reasons to Use Pre-Programmed Scenarios on Your Laerdal Simulator

There is often a reluctance to use preprogrammed scenarios with centers opting to run simulators “on the fly”. While it is true that there is an investment of time in initially creating scenarios in a preprogrammed mode, we believe it is well worth your time. Preprogramming allows you can increase the efficiency and productivity of your center, your ability to function as a facilitator and debriefer, as well as run scenarios in a more reproducible fashion and gather performance data. Some people feel overly restricted when they are operating in a preprogrammed mode, claiming that students do unexpected things and that is the reason they can’t use preprogrammed scenarios. In this article we will discuss that this feeling is likely a result of the way the programming is performed.

**Efficiency:** When you can train yourself or facilitators in your center to be able to operate simulators on their own, it alleviates or reduces the need for a dedicated simulation specialist. We are not suggesting that your facilitators learn the nitty-gritty about programming and deep technical operations of the simulators. However, we have found it reasonable to be able to train new facilitators in a matter of a couple of hours on how to run a preprogrammed scenario, collect data, and use the simulator output to help script part of the debriefing conversation. We like to use the metaphor of driving a car. We need to be able to teach the facilitators how to “drive the car to the store and back, but NOT expect them to fix the engine, change the oil or perform other technical operations.”

**Improve Facilitation:** Once you become accustomed to preprogrammed scenarios, you will worry less about what the simulator is doing and be able to concentrate more on what the participant(s) are doing. Creating menu items allow you to click the progress of the scenario as well as realizing that these “clicks” can serve as notes for you to assist in the debriefing phase. This can free up a lot of attention and alleviate anxiety on the part of the facilitator. The benefits of less stressful facilitation are noted early on, when even the simplest of parameters are preprogrammed to reflect the “initial state” at the beginning of the scenario!

Other aspects of facilitation can be enhanced by the use of preprogrammed scenarios. Integrating debriefing commentary, or just listing debriefing suggestions and associating them with menu items can greatly improve the debriefing process. The information that is generated by a well preprogrammed scenario can serve as a backbone that can be expanded upon during the debriefing process. Further, this information is created and collated during the actual running of the scenario, so it is reflective of the participants actual performance. This debriefing backbone can also help the facilitator stay on

(cont.)

## Good Reasons to Use Pre-Programmed Scenarios on Your Laerdal Simulator (cont.)

track with the intended learning objectives of the simulation encounter as well as lessen the chance that they may miss major points associated with the learning or assessment goals. Lastly, it is far easier to teach new facilitators how to run existing preprogrammed scenarios as opposed to needing to adjust the simulator on the fly.

### Tech Tips: How to Hide the Laerdal ALS Man Peripherals

When trying to run mock codes or unusual scenarios, the Laerdal ALS man is a fantastic trainer to utilize. The wireless link box and Simp pad make it easy to place the simulator virtually anywhere, even outdoors for a real-life scenario. Even though the link box connects wirelessly to the Simp pad, the box itself is left visible, causing it to detract from the illusion of being a “real patient”. It is also a hassle to put the link box out of harms way. We have seen the link box taped to the back of the Laerdal ALS man, however it can be damaged easily and this is not recommended. Another way to hide the ALS link box and battery pack is to place them in the manikin’s pockets, which is not very secure. However it may be worth your time to modify ALS man by cutting the side off of the abdomen and the connecting side of a pelvis using an Exacto knife. You



can then replace the long extension cable that connects the link box to the mother board and run a smaller cable into the abdomen. Both pieces will fit inside and stay flush. The padding in the abdomen will keep the link box safe and unseen. It also makes everything seem more mobile without having to reconnect link boxes. It also alleviates the worry

## UPCOMING CONTINUING EDUCATION EVENTS

### OPERATIONAL BEST PRACTICES

3/26-27/2014

9/9-10/2014

12/2-3/2014

### SIM TECH

Coming in the 3rd quarter

For more course offerings visit

[www.wiser.pitt.edu](http://www.wiser.pitt.edu)

## DID YOU KNOW?

that WISER offers a completely customized simulation technician preceptor program. For further information please visit [http://www.wiser.pitt.edu/apps/courses/courseview.asp?course\\_id=7918](http://www.wiser.pitt.edu/apps/courses/courseview.asp?course_id=7918)



## WISER and Virtual Care Simulation Lab at Summa Health to Sponsor SimOps Journal Club

WISER, SUMMA Health System Virtual Care Simulation Lab, and the Gordon Center for Research and Medical Education are going to be sponsoring a SimOps Journal Club. Directors for the Journal club are Tom Dongilli, WISER Director of Operations, and Scott Atkinson, Summa Health Virtual Care Simulation Lab Simulation Manager.

This quarterly webinar will be dedicated to advancing the education and industry of Simulation Operations and Administrative personnel. Webinars will consist of 20 minute presentations followed by moderated Q&A sessions. Related publications may be reviewed and discussed as well. There is no fee to join, simply log in and participate. Registration information and details are below.

We look forward to seeing you at SimOps Journal Club!

### 2014 SimOps Journal Club Dates

- April 10th (2-3 p.m. EST)
- July 10th (2-3 p.m. EST)
- October 9th (2-3 p.m. EST)
- December 11th (2-3 p.m. EST)

For further information on the SimOps Journal Club and Journal Club log in information, please visit:

<http://www.wiser.pitt.edu/simopsjc>

## Troubleshooting Missing Pulses

At WISER, it is common to lose the peripheral pulse in the arm of our Laerdal Simman Classic. With the constant movement of our manikins, it is not uncommon for the plugs connecting to the brachial as well as the radial pulse to become detached. The simplest way to troubleshoot this problem is to remove the pulse pads and examine the connections. To repair the connections, the arm will first need to be removed. Second, you will need to find the plug located in the upper arm and reattach it to the pulse pad. Lastly, you can secure the pulse pads with super glue.



## Can You Hear Me Now?

Quality audio communication between instructors and participants in simulation can play an important role in the learning process. Here at WISER, we have developed an AV infrastructure that caters to our facilitator's different needs.



Using microphones and speaker systems in our Medical Education Theaters (M.E.T.) as well as our control rooms allows the facilitator a range of options on exactly how he or she wants to run any given scenario. Assigning roles to participants in both rooms can help create a realistic atmosphere for the learner. It is important that the audio system is functioning properly; if not configured correctly these issues can cause a major distraction.

When configuring your system, it is key to isolate the signals from each other to avoid interference and feedback. The mixer we use here at WISER is the Behringer XENYX 1002B, and it offers two isolated send channels, an Fx Send, and a Monitor Send (Mon Send). Routing our output signals on these send channels (or outputs), allows us to control the signals separately from each other. This in turn creates communication between the control room and M.E.T. less prone to feedback creating a consistent quality experience here at WISER.

Look for an upcoming YouTube video on this from us in the near future.

## Understanding SimMan: Trismus

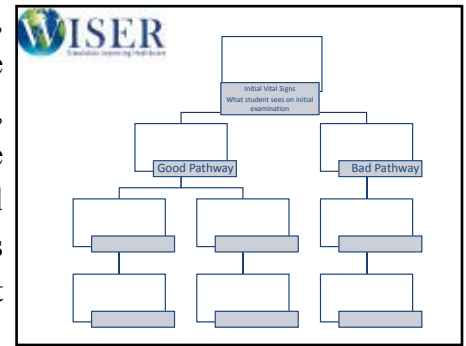
Simman uses a combination of electronics, pneumatics and mechanical components to make a variety of simulated conditions. When you apply Trismus on your software, a signal goes to the control box, then to the mother board of the SimMan. The mother board controls the solenoid bank and tells it to release air from the "Trismus" hose. The air then flows up into the top of head and fills a bladder, the bladder pushes down a metal plate, the plate pulls two cords that are screwed into the jaw causing the jaw to clench and simulate trismus. From an electronic signal, to pneumatics into mechanical trismus is complete.

### Simple Trismus Troubleshooting:

The multiple step Trismus process can cause issues. Luckily, simple troubleshooting techniques can solve most of these issues. First check and make sure Simman is connected, if Trismus is still not working attempt another function such as tongue edema. If tongue edema works, you will have to open SimMan. Ensure that the "Trismus" hose is connected to the "Trismus" outlet. After that you can open the top of the head, and ensure that the bladder is still connected to the hose as well as check the cables are connected to the jaw and metal plate. If you cannot find anything wrong within these steps a higher level of troubleshooting ability is required, the Simulation Tech Development course at WISER can better prepare you for unusual malfunctions.

## Why We Use Programming Forms

Pre-programmed scenarios promote standardization of educational content, debriefing points, and data collection as well as ease of use for instructors. The scenarios may be developed by the instructors themselves or by a staff member, usually a simulation technician, who works in your simulation center. When the technician is required to program the scenario, it is crucial that he or she gets all of the necessary information to make the scenario meet the goals and objectives of the instructor. This is especially helpful for the non-clinical technician so that he or she can understand and follow the flow of the scenario.



**WISER** Trend and Handler – Programming Form

Intervention Name: \_\_\_\_\_

Desired Effects:

Parameter	Delta:	Up ↑ or Down ↓	Time Course:
HR			
BP			
RR			
CO <sub>2</sub>			
SaO <sub>2</sub>			
Temp			
Breath Sounds			
Voice			
Comments			

Performance evaluation grade if performed: Correct  Incorrect  N/A (check one)

(Given Performed Never Occurs) check one

Comment: \_\_\_\_\_

Range: vital signs should stay within:

Parameter	Max:	Min:
Rhythm		
HR		
BP		
RR		
CO <sub>2</sub>		
SaO <sub>2</sub>		
Temp		

Even though scenarios can range from simple to complex, instructors and facilitators are encouraged to use the programming forms that we provide them. Prior to filling out the forms, it's a good idea to write out your scenario first so that all of the goals and objectives are covered. Then, transfer the necessary information on to the forms. Having the correct information on the forms will help ensure that you get exactly what you want from a programming standpoint. In addition, the programming forms also allow for customized monitor setups, as well as checklist for all of the required equipment for each individual scenario. The use of programming forms will help to speed up the scenario building process for both the instructor and the simulation technician.

## Simulation Technician Development

The world of simulation is constantly growing and changing. With all the evolutions, how does the operations team keep up? “TechSim”, The Simulation Technician Training Program has been developed to address the most prominent training needs of simulation center technicians and operations personnel. This program was designed by the following simulation centers: WISER (Pittsburgh), The Gordon Center (Miami), SimTiki (University of Hawaii), Virtual Care Simulation Lab (Summa Health, OH) and the Sentara Center for Simulation and Immersive Learning (Eastern Virginia Medical School).

This first ever SimTech 2.5 day training program is designed to educate simulation technicians / operational personnel on such topics as simulation terminology, audio visual considerations, roles and responsibilities of the technician, scenario programming, equipment repair and maintenance, calendar management, basic physiology, running sim sessions and much more. Additional concentration will focus on using forms to gather necessary data and information for scenario creation and design, as well as open dialog to identify ideas related to “setting the stage” for simulation activities, utilizing various levels of fidelity, props, and equipment to achieve the educational goals of the course. Factor in the need for cost effective supply and inventory control, and realizing the flexibility in a room's set-up is key will also be addressed.

Time will be allocated to allow participants to have “hands-on” involvement, interactive workshops and meetings with faculty.

We look forward to the inaugural TechSim course in third quarter of 2014. It is our hope that you will consider joining us for this dynamic course offering. Additional times and locations will follow.

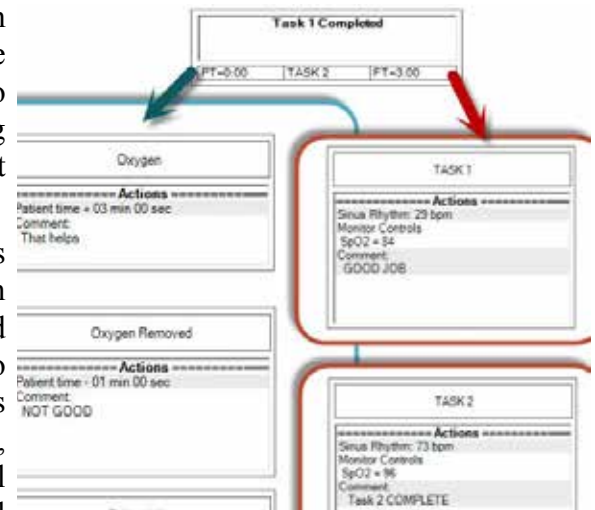
## Laerdal Simulator Programming Tip

Understanding the difference between frame time and patient time can open many options in a scenario. One could think of them as 2 separate options. Patient time can be used as an overall timer for the scenario that you add or subtract time from based on events that occur during the scenario. Frame time is the amount of time that that you stay in that single frame.

**“Patient time” example:** For this scenario, the patient has five minutes before the airway will be lost if proper drugs are not administered. In your initial Frame, you should set the Patient time to five minutes. Based on treatment pathways, the student can correctly treat the patient, do something that adds time to the scenario or do something that reduces time in the scenario without effecting the time in frame. In this scenario, 3 different drugs should be programmed in the handler. Drug A will fix the patient and will send you into your “Win frame”, Drug B will prolong the scenario by adding 1 minute, and Drug C will cause a reaction.

Frame time is a bit easier to understand in the programming world. If your scenario involves many frames that depend on the student completing a task to move the scenario along, you will need to identify if there is a need to monitor how much time a student has to complete the task. “Time In Frame” allows the programmer to set a task to be completed and also assign a time limit to complete the task.

This can be helpful when programming complex scenarios that require multiple factors for success or failure. Patient time can be that extra layer of programming that your scenario needs to create a realistic situation.



## Tech Tip: Testing Your Simman Classic Lungs

Having trouble ventilating your Simman Classic? Chances are that your Simman has a hole in his lung. Even a small hole can affect proper chest rise. Here is a quick and easy way to test your lungs to see if there is a hole in his lung.

1. First, disconnect one or both of Simman’s lungs
2. Next, disconnect the air hose from Simman
3. Use the compressed air to inflate the lungs
4. Feel for leaks or holes by running your hand along both sides of the lung
5. If you feel a leak, replace the affected lung
6. You should now see much better chest rise



## WISER's Customer Service Model for Simulation Centers

The WISER customer service model of operations addresses the most prominent issues facing faculty utilizing simulation centers today. This model is one that supports instructors in the operations and teaching of courses within the WISER center. The customer service model focuses on 3 key points:

1. The most important person in the simulation center is the instructor.
  - If the instructor has a hard time teaching, they will not come back.
  - Students of a class that have an instructor struggling with your center technology, equipment or processes will have a bad experience and/or their education may be compromised.
2. An instructors time is expensive.
  - Most departments will not want to pay their staff to spend time setting up or troubleshooting equipment.
  - Be sensitive to this and limit the amount of time they need to spend at your center for preparation or post course responsibilities.
3. Most instructors utilize the center infrequently, so they will not be familiar with your equipment or locations.

In order to address these needs, WISER has come up with the following solutions:

1. Work with your instructors to make an equipment list for each course.
  - Your staff can gather this equipment and have it ready prior to the arrival of the instructor and students.
2. Take a photo of the room setup.
  - On the day of the class, your staff can set the room up to the exact preferences of the instructor.
3. Complete a pre-class check of the equipment and the simulators.
  - To assure all is functional prior to the start.
4. Assure your instructor know how to get ahold of your staff if there is an equipment need or failure. At WISER, we utilize 2 way radios in each room.
5. Classes that have multiple instructors may have different needs for each instructor. You may need to repeat the above process for each instructor.

Each time the class runs, you will have this detailed information. For more information about this topic, please visit:

<http://www.youtube.com/watch?v=VoawWhAqofY>



## Director's Corner

### Simulation Technologists Are a Common Crucial Fiber Amongst Simulation Programs

We hope that you enjoy this special edition newsletter focused on simulation technology. The technology associated with simulation and advanced innovative health care education demands a well-educated workforce to install, maintain, and troubleshoot critical systems to keep our educational programs functional. All too often, the technical community associated with simulation does not share in the praise of the successes of simulation programs. However, maintaining competence across a wide array of technology and methods including audiovisual systems, information technology systems, computer assisted devices, fluid dynamic systems, numerous simulation systems, and moulage is crucial to the success of a simulation center. Also, being familiar with the education methods employed in simulation based education is all part of the arsenal of the well prepared simulation technician.



While there is considerable variability in and amongst the way technicians are utilized when you travel from center to center, the net result is the same. The success of the education of systems of the center rests upon the technical workforce, more so than any one group of individuals. The education and experience, as well as dissemination of best practices across this workforce community are crucial for health care simulation to continue to move forward. This is particularly true as new technological solutions and innovations are incorporated into the methods that we have previously used to achieve our outcomes.

WISER has shared in the preparation of the simulation technical workforce for the last 20 years and has developed numerous education opportunities to include classes, preceptorships, and fellowships to assist in the dissemination of information. We were recently called upon by the Society for Simulation in Healthcare to host a regional simulation technician training conference that will be held in July of this year. We are excited to have the opportunity to collaborate with the society in this endeavor and look forward to continuing our tradition of preparing the simulation technical workforce of the future.

Happy Simulating,

A handwritten signature in black ink that reads "Paul". The signature is stylized and cursive.

Paul

**FOR FURTHER  
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