

Simulation Learning System with Virtual Reality (SLS VR): Introduction to the SimX VR Environment

Contents

Introduction	1
Using Tools and Interacting with Objects	2
Location of Tools/Supplies	3
Common Assessments and Interventions in VR.....	7
Administering Oxygen	7
Starting an IV	7
Administering an IM, SQ, or IV Injection.....	8
Managing Bed Controls.....	9
Turning a Patient	11

Portions of this guide are adapted from **SimX's Instruction Manual**.

Before using VR hardware, consult the **Oculus Health and Safety Warnings** at www.oculus.com/legal/health-and-safety-warnings ↗.

See **Using VR Hardware** for Oculus resources on adjusting headset fit and **Joining a Sim Group in VR** for information on navigating the SimX app in VR.

Introduction

- A case/scenario is made up of **patient states** which describe a point in time during that case. There may be one state or several states depending on the learning objectives, and the patient's condition may change from state to state. A case may or may not be timed, and states may change at specific time or when all critical actions are met.



- The moderator (your simulation facilitator or instructor) will guide you through a particular case, providing introductory information if needed.

Using Tools and Interacting with Objects

- You have many tools available to you when providing care for your virtual patient. In many cases, you'll find a stethoscope, oxygen equipment, and a tablet with an EHR near the patient.
 - Other tools may be available depending on the case, such as syringes to give IV, IM or SQ medications, a tocotransducer, etc.
- The VR tablet lets you view the patient's medical record, including patient overviews, notes, handoff report, lab results, active orders, and other pertinent information, similar to a standard EHR.
 - **NOTE:** While you cannot document in VR, please note that everything the virtual handoff nurse dictates in the Introduction/Handoff state is represented in the tablet for reference during the simulation. New orders from the provider also appear in the EHR on the tablet.
- For tools that are designed to interact with the patient, you simply hold them in your hand (using the "grab" trigger button on the remote control) then apply them to the appropriate place on the patient.

- In most cases there will be light-blue spheres indicating the place on the patient's body or other locations where the tools or other medical equipment can be applied or placed.
 - For example, to use the **stethoscope**, just pick it up using the **"grab" trigger** button. You can then listen to the patient's **heart**, **lungs**, and **abdomen** by placing the stethoscope on the small blue spheres, i.e. the **hotspots**, that appear on the patient to help guide you to key areas to listen.

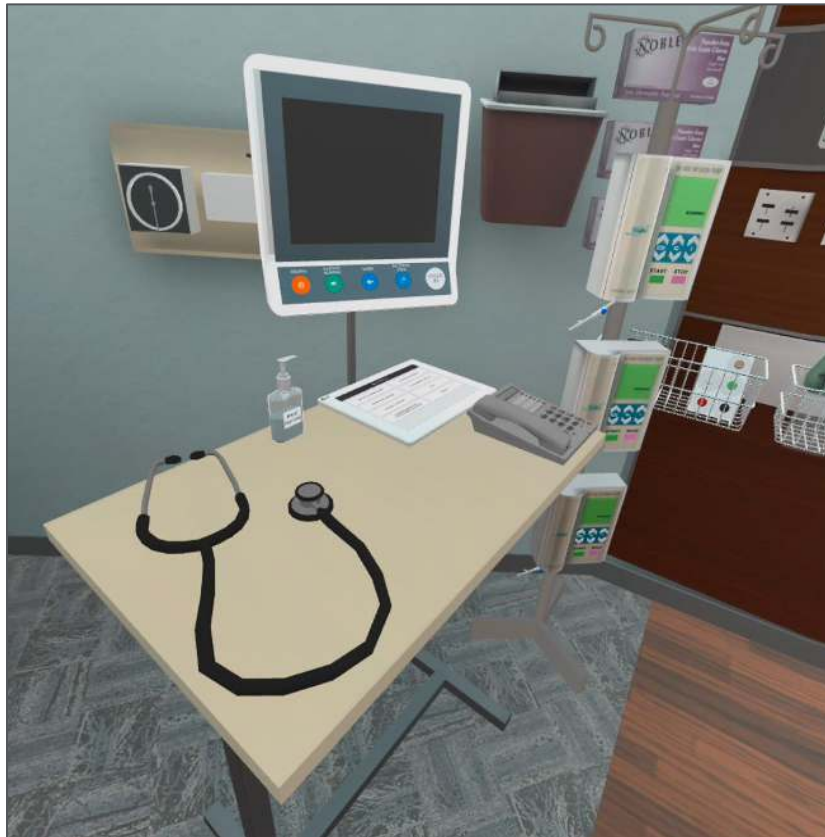


NOTE: You should not be using any physical medical devices or equipment in the play space. All the tools you need are virtual and operated using your VR controllers.

Location of Tools/Supplies

- Look around your environment and whatever is highlighted with blue outlines can be picked up and used where blue spheres or hotspots appear. Most scenarios' environments will have standard tools in similar locations:

- **Tray table:** The **main tray table** will usually contain the **tablet** (housing **EHR** data), **stethoscope**, **hand sanitizer**, and **phone**.



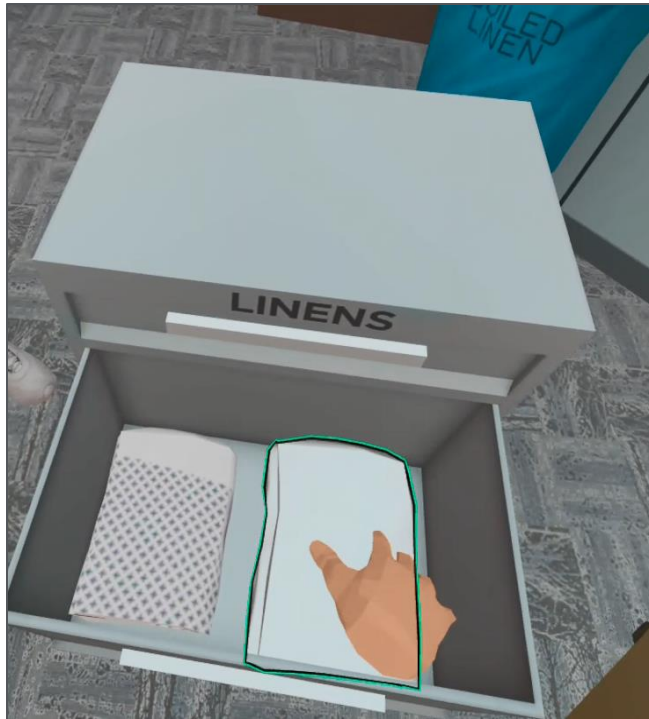
- **Basket on the wall by patient:** The **basket** usually contains a **pulse oximeter**, **oxygen** delivery devices, **ECG pads**, and **blood pressure cuff**.



- **Medication supplies cart:** Usually contains **blood glucose monitor**, **temporal thermometer**, **alcohol wipes**, **IV catheter**, **gauze**, and more.



- **Linens cart:** Usually contains **bed pads**, **extra linens**, **patient gown**, and **pillows**.



- **Medication dispensing system:** Whatever **medications** are available for the patient or newly ordered will appear in the **med cart**. The **syringe** will usually be sitting on top of the med cart for use with vials.



Common Assessments and Interventions in VR

- Common physical exam maneuvers such as checking pulses and palpating the abdomen will be triggered automatically as you approach the patient's body.
 - For example, your **hand** will immediately change into a **two-finger gesture** to check the patient's pulse if you **touch the radial artery** on the patient's wrist. The vibrations you feel will match the patient's pulses in strength and speed.

Administering Oxygen

1. To administer oxygen, select the appropriate oxygen delivery device from the basket on the wall by the oxygen source/regulator by hovering over it until it is showing a blue sphere, and pick it up using the trigger button on your controller.
2. Place the device on the patient by hovering over the patient's face with the device until a blue sphere appears there, then release the trigger.
3. Tubing will appear on the patient's right shoulder. Grab this tubing with the trigger button and connect it to the oxygen source on the wall by releasing the trigger over the blue sphere that appears.
4. Titrate oxygen by grabbing the regulator knob and turning it. You should hear a hiss once oxygen has been titrated and see tubing appear after connecting it to the wall.
5. To remove an oxygen device from a patient, simply hover over the device on the patient and grab it with the trigger button. This will automatically stop the oxygen and remove the tubing.

Starting an IV

1. To insert an IV, locate the supplies in the medication supplies drawer, and grab each item individually as you need it.
2. Blue hotspots will appear on the patient where an IV can be inserted once you have picked up the IV catheter in the drawer.
3. Place the IV where desired.
4. When you hang an IV medication on the IV pump, tubing will appear on the pump. Pick up the tubing with the trigger button and connect it to the newly inserted IV catheter on the patient.

5. The pump will display the solution/medication information and indicate it is not started yet.
Touch the buttons on the pump (your hand will turn to a pointer finder automatically) to program the pump as desired.

Administering an IM, SQ, or IV Injection

1. To draw a medication from a vial, pick up the syringe on the medication dispensing system, and the syringe will be appropriate for the route for which you are drawing the medication.
2. While holding the vial in one hand and the syringe in the other hand, move the syringe in the hotspot that appears on the vial, and use the thumbstick (the joystick) to draw the medication by moving it up or down to draw medication or expel it back into the vial.
 - a. You will see the mL increase via a label that pops up as you draw the medication:



Managing Bed Controls

1. To lower or raise the head of a hospital bed, move your hand near the head of bed (HOB), and an arrow will appear (pointing up or down depending on the current position of the bed).
2. Hover your hand over the arrow and press the trigger button to raise or lower the HOB.



3. To lower or raise the bed height, move your hand a few inches away from the HOB arrows and two arrows will appear to indicate which direction you want to adjust the bed height.
4. Hover your hand over the desired arrow and hold down the trigger button to adjust.



5. Any areas that highlight in blue on the bed indicate they can be interacted with (such as the siderails or brake).



Turning a Patient

1. To turn a patient (if applicable in the scenario), put the head of bed down so that it is flat.
2. Move one hand by the patient's head and another by the patient's hip where arrows should appear.
3. When both hands are on the arrows, use the trigger buttons on the controllers; this will turn the patient to their side.
4. Doing the same thing again will put the patient back in their original position.

Oculus Quest is © copyright Facebook Technologies, LLC. All rights reserved.

SimX is © copyright SimX. All rights reserved.

END OF GUIDE