



User Manual

Radiography Simulation VR Usage Instructions

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Portal Walkthrough

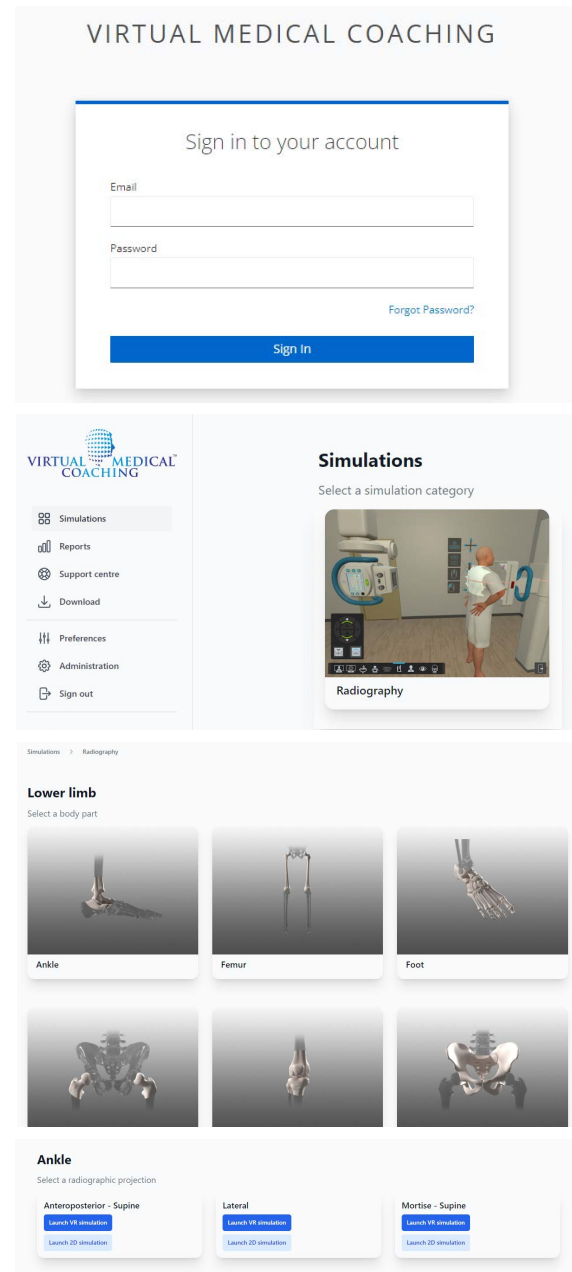
To access Virtual Medical Coaching's radiography training software, you should log in via the [VMC WebPortal](#).

The opening page will be on "simulations" and any modules you have licenses for will be shown here.

Select radiography

On the next page select the body area you would like to practice on (Skull, Upper Limb, Torso, Lower Limb). Then, select a specific body part.

Click 'Launch VR simulation' underneath the chosen radiographic projection. This will load the chosen radiographic projection onto your VR headset.



First Time User? Head to the 'Downloads' section of the portal and install the simulation - your academic lecturer or IT person at your institution should be able to help you with this. Visit help.virtualmedicalcoaching.com for more information.

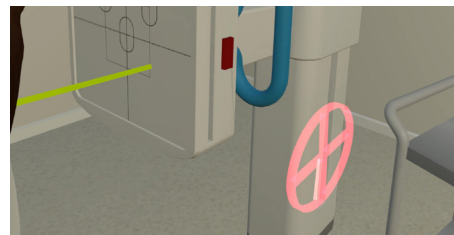
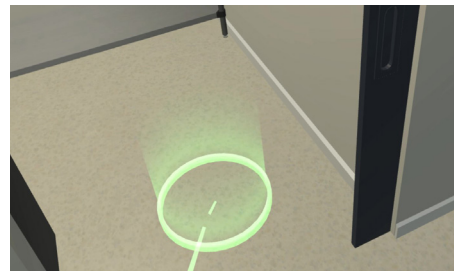
Controls

It's important to note that the control mappings may vary depending on the model of VR headset you have. If you require any more assistance, please contact us.

Teleport

The teleport function allows you to move around the virtual world without requiring physical movement. This function is especially useful for navigating in VR when physical space is limited.

To teleport, look at the area on the floor you'd like to teleport to and point your controller in the direction you want to go and press the teleport button. A green circle indicates that you are able to teleport to that spot. Release this button you will then be instantly transported to the location selected. If the circle is highlighted red, it means you are not able to teleport to this area (e.g. a wall or tray), try to aim at the floor.



Grabbing

The grabbing function allows you to move equipment and position your patient.

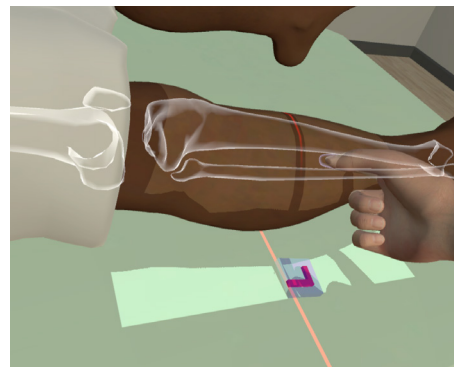
Reach out to the object you'd like to interact with, if it highlights in green, this means you are able to grab it. Pull a trigger to activate the grabbing function. Once you grab onto an object or patient, you can move them around like you would in real life.



Pointing

Pointing on the skin in VR will highlight the skeletal anatomy allowing a learner to correlate the external and internal positions of the patient.

You can also use the pointing function to press buttons on a monitor or equipment although this automatically happens when you move your hands closer to those items.



The Console Room

Reviewing Patient Notes (Left Monitor)

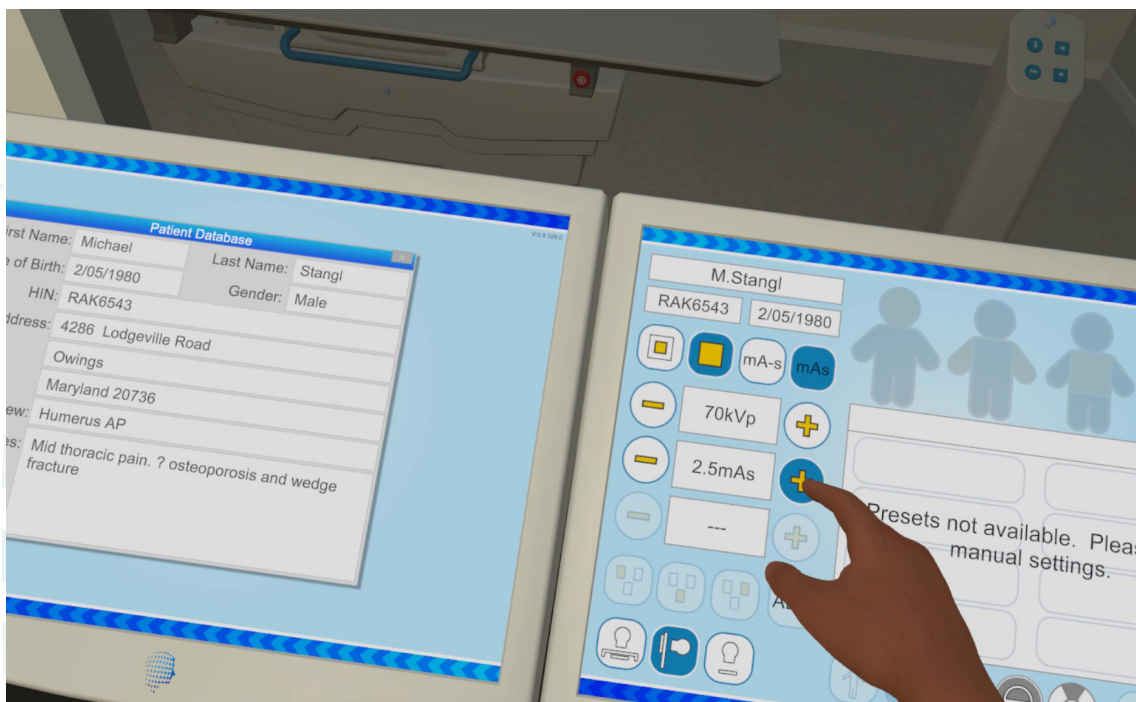
Review the patient's information such as their name, date of birth, gender, and health industry number. Also double check the radiographic image requested and any relevant patient notes to take into consideration when positioning the patient and x-ray tube for the radiographic imaging.

X-Ray Settings (Right Monitor)

On the X-Ray control panel, you can control all the exposure settings of the X-Ray Tube including focal spot size, kVp, mA, ms, mAs, and focal spot size.

If you are in the practice mode of our simulation, a range of preset exposure settings will be available for each radiographic view by initially selecting the body area being imaged in the top-right-hand side of the console and then navigating through the options below.

If you are in the self-assessment mode of the simulation, these presets are disabled but all other functions remain enabled in order to encourage students to learn their exposure settings.



The X-Ray Room

Handwashing

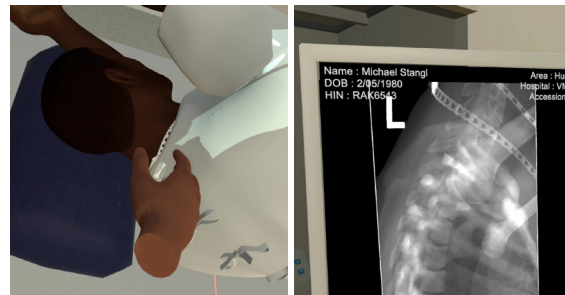
Use the soap and the faucet similarly to real-world scenarios. When you place your hands next to each other this should trigger the handwashing animation. This works the same with paper towels when drying your hands.



Jewelry

Check if the patient is wearing any metal jewelry and remove them if required before taking an x-ray image.

The jewelry will appear on the radiographic image if not removed.



X-Ray Tube Positioning

The X-Ray tube display shows the most important patient data and exposure settings for quick reference when positioning the X-Ray tube.

Press the arrow buttons to unlock mechanics in the indicated directions to accurately position the X-Ray tube to the desired SID, angle of incidence and beam collimation for their planned radiographic exposure.



The Post

Buttons on the post at the end of the table operate the height and also give a "floating top" to allow multi-directional table positioning.

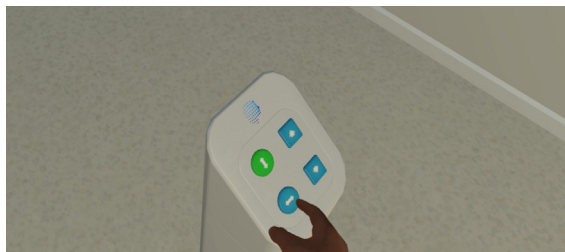
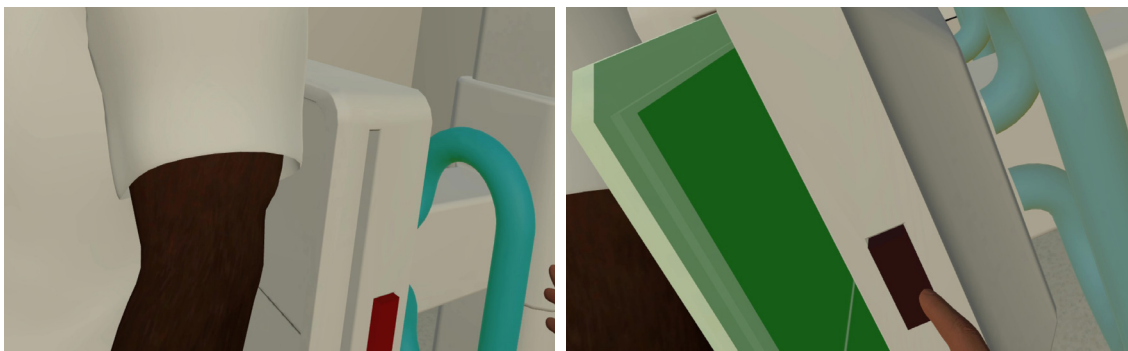


Table Bucky & Standing Bucky

The imaging cassette and the side markers are located on a tray next to the table bucky. Place the cassette into the imaging plate into the table Bucky. You can move the imaging cassette into the position desired and you will feel this when it goes into the detent if you have selected the appropriate Bucky prior to moving the X-ray tube.

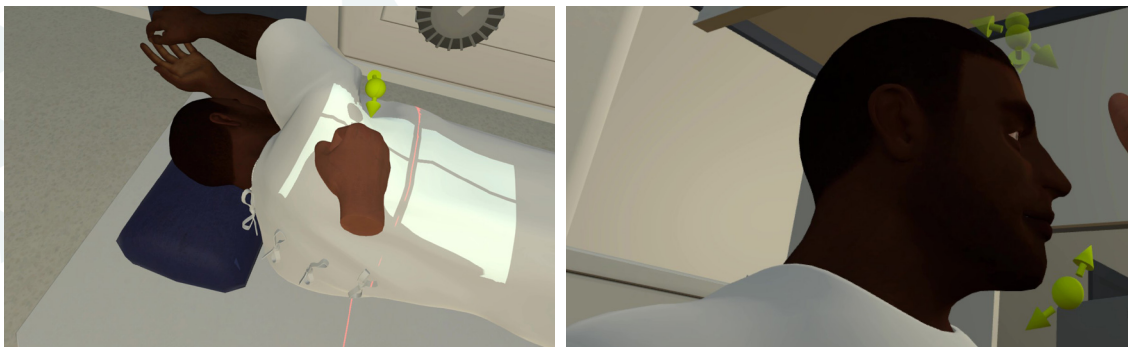


Similarly to the table bucky, the erect detector can be moved up and down. A grid is already inserted but can be removed by pressing the red button.



Positioning Patient

You will notice green arrows appear on the patient when your hand approaches the patient, these suggest angles and directions that you can move the patient and where you should hold them for effective imaging and to place and position the correct side marker. The green arrow indicates which body part will rotate. Each radiographic projection will have between a few movements of the patients you are able to do.



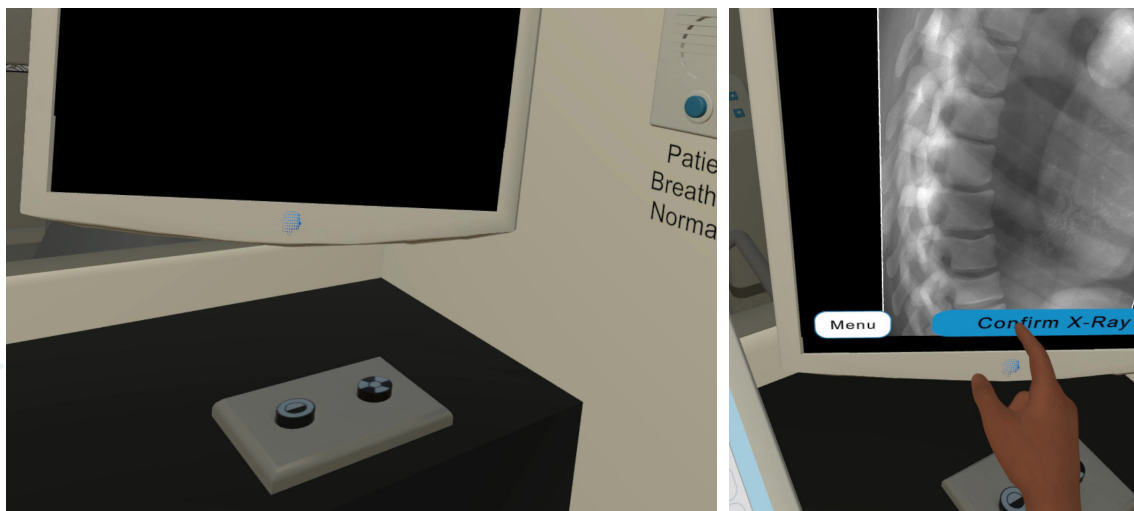
Taking the Radiographic Image

Heading back to the console room, double check the settings and controls before taking a radiographic exposure.

Remember to close the sliding door to ensure that the operating room is closed during the time of exposure. There is an option to instruct the patient to hold their breath (a 15 second breath inspiration) and stay still for any imaging which has manageable body movement.

Once everything is set up the X-Ray tube should then be prepped and a radiographic image taken using the exposure button.

When you have obtained your radiograph, the collimation region, contrast, brightness, Rotation and Zoom of the radiograph can all be controlled via the menu button on the screen. DI and Image details are shown on the screen.





Prepare for risky events in a safe environment through immersive training.

Virtual Medical Coaching is committed to improve healthcare quality, reduce risk, and save lives. Our medical simulation software is used by hospitals and healthcare education providers around the world and have been demonstrated to positively impact students' clinical performance.

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