Introduction

Virtual Life Support™ is a Virtual Reality training module that prepares people to provide **CPR assistance** in the real world. Existing CPR courses let you train your technique, but no amount of classroom training can truly prepare you for encountering someone unconscious on the ground. With virtual reality we can close the gap between classroom training and the real world unlike any other tool, giving people the confidence to act when there is a life on the line.

With Virtual Life Support (VLS) VR Lab offers a complete, innovative and fun virtual reality application for learning to resuscitate according to the guidelines of the **European Resuscitation Council (ERC)** and the **Dutch Resuscitation Council (NRR, Nederlandse Reanimatie Raad)**. The target groups for VLS are very diverse: from organizations that want to introduce their employees to resuscitation and the use of an AED in an innovative way, to professional training courses, such as first aid training, training for first responders and training in health care.

For questions regarding setup and use of Virtual Life Support, please follow the instructions on this page. Still having problems? Check out the Frequently Asked Questions or use the support form on this website.

Please take a look at our instruction videos on YouTube for a quick introduction to various tasks related to using Virtual Life Support, including a quick-start guide.

Prerequisites

Virtual Life Support is available for the Meta Quest 2, Meta Quest 3(s) and Meta Quest Pro. It is also available for the Pico 4 Enterprise and the Pico 4 Ultra Enterprise.

VLS requires hand tracking to be enabled. It does not support controllers. Hand tracking must be enabled on the headset.

On the Meta Quest, go to the *Settings* application, select *Device* on the left side and then *Hand and controllers*. You can now enable hand tracking. More information can be found here.

On the Pico 4 (Ultra) Enterprise, Virtual Life Support will automatically enable hand-tracking.

As you need to be able to kneel down with the victim you need to set up a room scale playspace and guardian. More information for Meta Quest can be found here. We strongly recommend to setup the play space manually and not to rely on the automatic play area detection that some headsets may offer. In particular it is very important to set the floor level accurately.

VLS measures your CPR performance. For the best results we recommend using a manikin with a chest height of at least 21 cm. Presets for many common manikins are available, but using a different manikin is no problem as the chest height can be adjusted in the setup.

It is also possible to use some other object that you can compress, such as a firm cushion. The object should ideally have a height of at least 21 cm and compressing the object should require some force (as is the case with a human body). Accurate CPR measurements are only possible with a proper manikin (half or full body). Make sure the manikin or alternative object does not shift during the training. For a neat solution, check out this FAQ entry.

Starting with version 1.4 it is possible to increase the accuracy of measuring the CPR performance by connecting VLS to a SimCPR® Pro Trainer. This device, worn on the wrist, connects via Bluetooth with VLS and sends it sensor data directly to Virtual Life Support™.

Starting with version 2.2 of Virtual Life Support Pro it is possible to use the sensors in a supported Manikin to accurately measure compressions and, in certain cases, ventilations. This feature is called the Connected Manikin.

Features

Virtual Life Support:

- Has been developed according to the guidelines of the European Resuscitation Council.
- Is skills training. Not only **knowing** the right thing to do is important, but also being able to **perform** them.
- Is intuitive to use: use your **hands** instead of controllers.
- Includes a fully implemented virtual ZOLL AED 3® with real time feedback about your CPR performance.
- Is a standard software solution: supported, maintained with regular updates and new releases.
- Uses standalone Virtual Reality hardware, which does not require a connected PC.

Installation

VLS is distributed via various channels and installation depends on the channel. The following channels are currently supported:

- ArborXR
- ManageXR
- Meta Horizon managed services (MHMS, previously known as Quest for Business)
- Meta store release channels on an invite-only basis
- Pico Enterprise Store (evaluation version only)

More channels will be made available in the near future. Note that sideloading will not be supported.

You should received an email with further information regarding the installation.

Note that by installing Virtual Life Support you accept the Virtual Life Support License Agreement that will have been provided to you.

Setup

Once you launch Virtual Life Support you will be in the setup environment where you first need to:

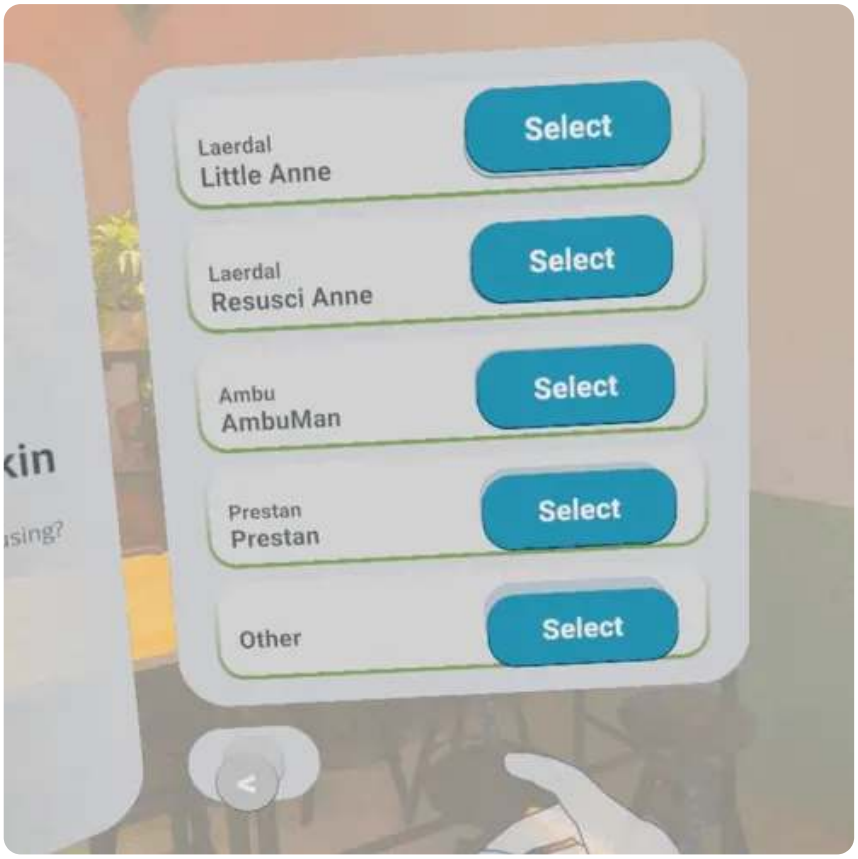
- Select your language
- If no license has been activated yet, a license activation dialog will appear. You may also choose to continue in demo mode. For a more detailed explanation of the license activation process, please refer to this webpage.
- When starting VLS on a VR headset for the first time, you'll need to grant permission to use the microphone. This is required for the audio interactions within the app. If you accidentally denied permission, please refer to the FAQ section for guidance on how to enable it.
- If your boundary is too small, you will be prompted to redraw your boundary.
- Adjust your headset and, when not set high enough to hear instructions, your audio volume.
- Select your manikin
- Align your manikin
- Adjust your Scenario settings
  - Select the desired scenario length.
  - Choose whether the victim has agonal breathing or not.
  - Decide if you want Hands-only CPR (CPR without rescue breaths).
  - Select your unit of measurement (cm or inches).
  - Select your emergency services number.
  - Opt to connect a compression measuring device (via Bluetooth), if available.
- Select the scenario you'd like to train in.

In all dialogs, you can press buttons by extending your index finger.

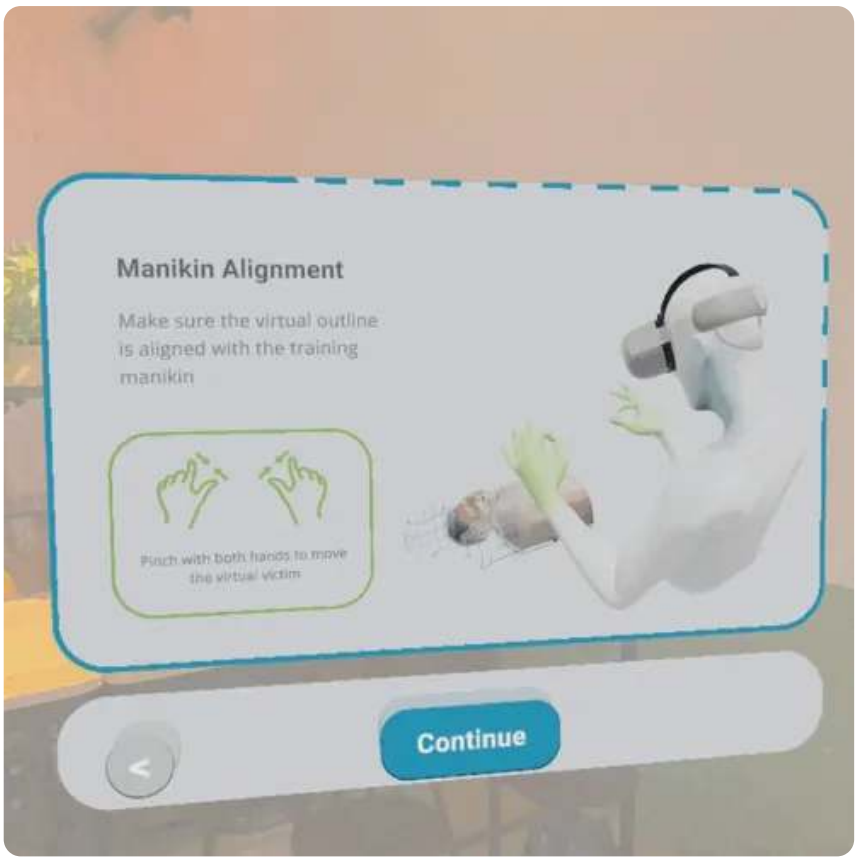
Selecting your manikin

You can select a predefined manikin or select Other. Use Other for manikins for which no preset is provided or for a manikin alternative, such as a firm cushion.

When you select Other you will have to specify the height of the manikin or alternative object. Please specify the accurate height of the “thorax” (where you will push to apply the compressions). You can check whether the height is correct by aligning the manikin and putting your flat hand on the right spot. When the height is too high, your ghost hand will disappear in the outline of the manikin. When it is too low, your hand will appear to float above the manikin outline.



Align manikin



The most important part of the setup is the careful alignment of the victim outline with the manikin. This will take some getting used to. Use a combination of adjusting the position of the virtual victim as well as moving around the real world manikin.

If you are standing too far away from the virtual outline, a green reset button will appear on the bottom menu, this can be used to reset the manikin position to your current position.

Setting up the Connected Manikin

Connecting a Bluetooth training manikin is available only with the **Pro** tier of Virtual Life Support. Using a supported manikin allows for more accurate measurement of CPR performance, including compressions and—when supported—rescue breaths. Currently this is only supported for Laerdal QCPR manikins.

To connect a Bluetooth manikin, follow these steps:

1. Enable pairing mode on the manikin. This is usually done by pressing down on the chest area once (refer to the manikin's manual if needed).
2. In Virtual Life Support, open the Special Settings menu, select Bluetooth Devices, and make sure Bluetooth is set to Enabled.

3. Apply the settings. You will be taken to the system Bluetooth connection screen, where the system will scan for nearby Bluetooth devices.
4. Select the manikin from the list and continue.

Once paired, the manikin will be stored under **Known devices** and can be selected directly the next time you start a training session.

For the best experience, we recommend pairing a specific headset with a specific manikin, so the connection can be made quickly and reliably in future sessions.

Setting up the SimCPR® Pro Trainer

If you want to use a SimCPR® Pro Trainer for more accurate measurement of CPR performance, you can set this up following these steps:

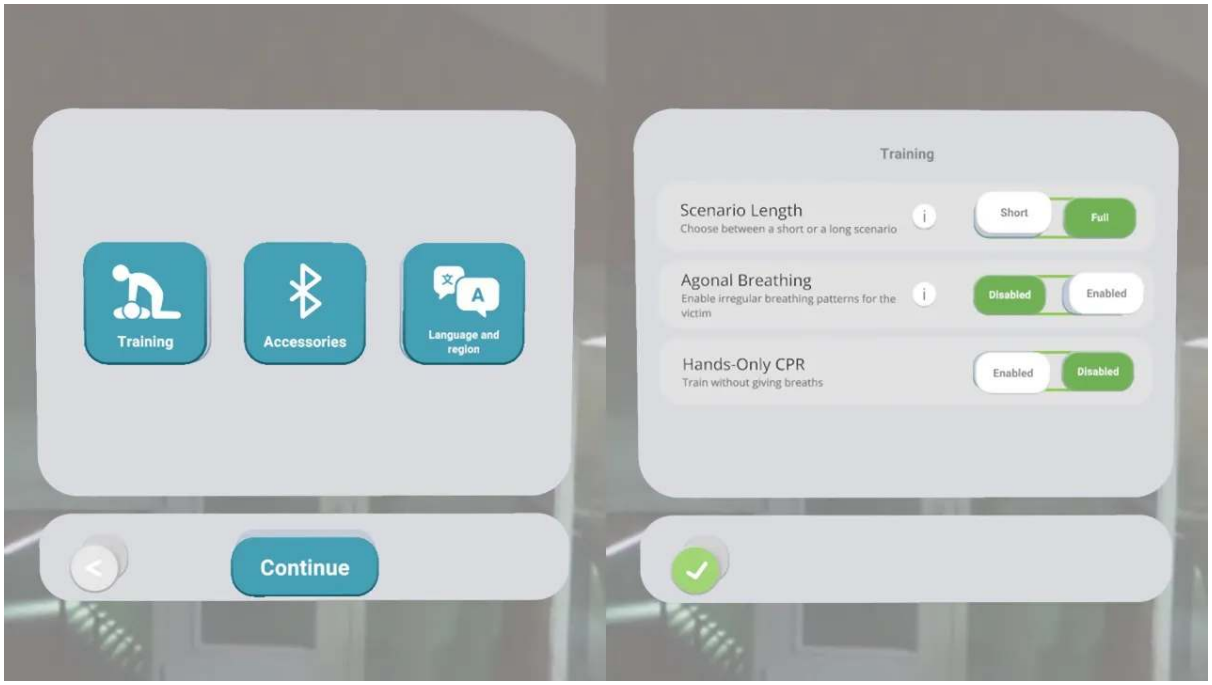
1. Turn on your SimCPR® Pro Trainer.
2. In Virtual Life Support, open the Special Settings menu, select Bluetooth Devices, and make sure Bluetooth is set to Enabled.
3. The software will then scan for Bluetooth accessories, showing only the SimCPR devices that it will find. Select the device and continue. In the device is not displayed but it is turned on, the SimCPR has likely not been paired with the headset yet. You should select *Pair new device* which will bring up the system menu for scanning for and pairing a Bluetooth device.
4. Select your SimCPR and continue.

It is recommended to keep a specific SimCPR® Pro Trainer together with a specific headset, so it easily connects the next times.

Changing your settings

The last panel you encounter before starting the training is the ‘overview’ panel. This is your central panel for editing your chosen settings and starting the training. Press **Confirm** to start the training. You can also change your settings or choose a different scenario by pressing the buttons in the menu.

The settings are subdivided into three categories. “Training”, “Accessories” and “Language and region”. Select the category of the setting you want to change to enter a submenu. There, the setting will be shown. You can change it freely.


Training
Accessories
Language and region
Continue
Training
Scenario Length
Choose between a short or a long scenario
Short
Full
Agonal Breathing
Enable irregular breathing patterns for the victim
Disabled
Enabled
Hands-Only CPR
Train without giving breaths
Enabled
Disabled

Use

In the training, you'll need to carry out all steps and interactions on your own initiative, such as checking your surroundings, recognizing a cardiac arrest, or performing CPR. It's essential to complete each step accurately, in the correct order, and quickly. If you take too much time or are unsure of what to do, the software will provide visual hints. For time-sensitive actions, a timing indicator (a circle filling up) will appear to guide you.

The software recognizes your interactions by measuring three key inputs (or a combination of them):

- **Head movement**: used for actions like compressions, checking for breathing, and the intent to give rescue breaths.
- **Hand tracking**: monitors movements such as shoulder shakes, head tilts, chin lifts, etc.
- **Audio input**: captures interactions with emergency services and bystanders.

Please note that not all actions can be fully measured. For instance, it's not possible to detect if you're actually giving two breaths; in such cases, it's your intent that counts.

The software measures CPR performance by tracking head movement through the headset's sensors. This works effectively as long as you perform compressions with straight arms—a best practice for proper CPR technique! For enhanced accuracy, you can also use the SimCPR® Pro Trainer, as described above.

If you remove the headset during training, the session will pause. Upon putting the headset back on, you'll have the option to either resume or start over from the beginning.

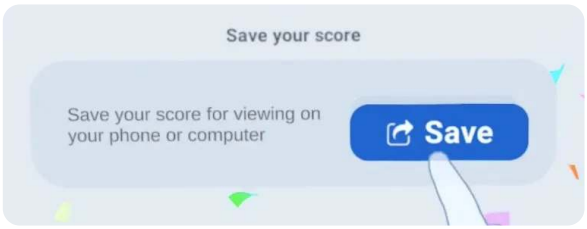
For a detailed explanation of the score calculation, please refer to the relevant FAQ section.

For audio interactions, the microphone must be on; an indicator will appear in the simulation if it's not (muted). If you experience microphone-related issues, you can find troubleshooting steps in this FAQ section.

You will be mostly by yourself at this moment. Luckily enough, there are bystanders that know where to find an AED. You can instruct them to get the AED for you. Once they bring the AED, you will have to turn it on and follow the instructions. The bystanders are Oliva or Hans, depending on the scenario.

It's important that you perform all steps correctly and quickly. If you're not fast enough or do not know what to do the software will give you some visual clues. For time sensitive steps you will see a timing indicator (circle filling up).

At the end of the training, you'll receive a score based on your CPR performance, which you can also save online. Once saved, you'll be provided with a code that you can use on this website to retrieve your results and, if desired, download them in PDF format.



Scenario

Once you start the training, you'll see an unresponsive victim on the ground. Follow the guidelines from this point onward. These guidelines are available here.

You'll mostly be on your own, but you can call emergency services, and a bystander is available to help retrieve an AED. Instruct them to get the AED for you. When it arrives, you'll need to turn it on and follow its instructions. Toward the end of the training, emergency services will arrive to take over.

Good luck!