



Instructions manual



« Congratulations for having chosen EzyGain VR, the brand new virtual reality kit developed by EzyGain. We hope you are completely satisfied with this modern and easy-to-use device! »

Zineb Agoumi, CEO and co-founder of EzyGain



Watch the e-tutorial here

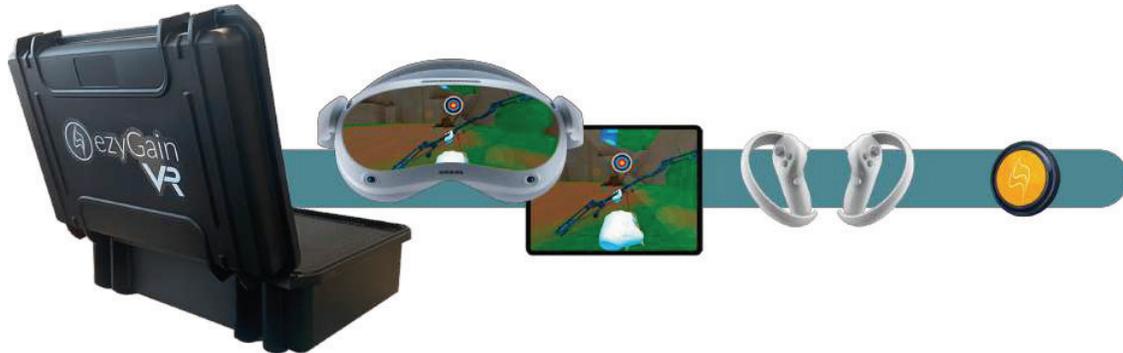
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Intended use



EzyGain VR Kit is a simple and affordable virtual reality module for effective and motivating rehabilitation. Comprising a headset and two controllers, this module offers immersive environments accompanied by cognitive exercises to work on walking, balance, the upper limb and fine motor skills.

Additionally, it features non-immersive virtual reality exercises on the tablet, such as interactive games to improve hand-eye coordination, memory puzzles to enhance cognitive function, and guided movements to aid in the recovery of fine motor skills. The kit also includes a motion sensor that allows it to connect with traditional rehabilitation equipment, such as an ergocycle or a secure treadmill, for a more integrated and versatile therapy experience.

Medical device

In accordance with 2017/745 regulation, the EzyGain VR kit is a class I medical device. More informations at : clinical@ezygain.com.

Target population



The EzyGain VR Kit must be operated by a trained therapist and is not for patient self-use. It is intended for individuals of all ages in physical therapy or rehabilitation due to injury, surgery, or chronic conditions, including musculoskeletal injuries, neurological disorders like stroke or Parkinson's, and post-orthopedic surgery recovery.

The VR kit is also ideal for elderly individuals improving mobility and balance, and athletes enhancing recovery. Patients must understand the therapist's instructions. Sessions should not exceed 45 minutes and may be shorter based on the patient's VR tolerance.

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Warnings

Modifications

Any modification of the EzyGain app files is strictly prohibited.

Photosensitive seizures

Like other products that produce visual effects (including flashes of light), the device may trigger seizures, convulsions, fainting, or severe dizziness, even in people who have no history. If you have a background of epilepsy or seizures, unconsciousness, or other symptoms related to epilepsy, consult your doctor before using the product. To reduce the likelihood of a seizure, do not use the product if you are tired or need to sleep.

Repetitive strain injury

Use the product in a comfortable position. Do not overtighten the product. Press the buttons lightly. If you have tingling, numbness, stiffness, palpitations, or other discomfort, stop using the product immediately and consult your doctor.

Physical and psychological effects

The content displayed using the product can be intense, immersive, and seem very real, and can cause your brain and body to react accordingly. Certain types of content (e.g. violent, scary, emotional, or high adrenaline content) could trigger an increased heart rate, blood pressure spikes, panic attacks, anxiety, post-traumatic stress, fainting, and other side effects. If you have a history of negative physical or psychological reactions to certain real-life circumstances, please avoid using the product to display similar content.

Likewise, it is important to remember that simulated objects, such as furniture, that you may encounter while using the product do not exist in the real world, and that injuries may result during interaction with these simulated objects as if they were real (like sitting on a virtual chair).

Hearing loss

Do not use the headphones at high volume for long periods of time, otherwise permanent hearing loss may occur.

Radio frequency interference

The product may emit radio waves which may interfere with the operation of nearby electronic devices. If you have a pacemaker or other implanted medical device, do not use the product until you have consulted your doctor or the manufacturer of your medical device.

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To minimize radio frequency interference, use only accessories approved by the original manufacturer, or accessories that do not contain metal. The use of accessories not approved by the original manufacturer may violate your local RF exposure rules and should therefore be avoided.

Avoid excessive use

Uninterrupted use of the product should be avoided. This can have a negative impact on eye-hand coordination and balance, and / or cause other negative effects. When you use the product frequently and for long periods of time, you may experience fatigue or pain in your muscles or other parts of the body. Take regular breaks when you stop using the product. The length and frequency of breaks must be able to vary from person to person.

Stop using the product if you experience discomfort

Stop using the product and consult your doctor if you experience any of the following symptoms:

- Attacks, loss of consciousness, convulsions, involuntary movements, dizziness, disorientation, nausea, drowsiness or fatigue;
- Eye pain or discomfort, eye strain, eye twitching, or visual abnormalities (such as altered, blurred, or double vision);
- Excessive sweating, increased salivation, impaired sense of balance, impaired hand-eye coordination, or other symptoms similar to motion sickness.

Until these symptoms have fully recovered, do not drive, use machinery, or participate in activities that may have potentially serious consequences. Before resuming use, make sure it is set up correctly. The type of content you use may have caused your symptoms. Continuing to use such content can lead to the same symptoms.

Use by children

It is imperative to note that a child should never use the EzyGain kit alone. Under all circumstances, the child must be accompanied by their therapist, who will supervise and guide the use of the device to ensure the safety and effectiveness of the exercises.

(Extract from the safety and regulations guide supplied with the virtual reality equipment)

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Composition of the EzyGain VR Kit



A virtual reality headset



Two controllers



One CycloSense sensor



A tablet with the EzyGain app



The VR kit includes equipment from other manufacturers, such as the tablet and the headset. It is essential to follow the usage precautions recommended by these manufacturers, especially regarding battery charging instructions or battery replacement.

The EzyGain app



The EzyGain app offers a rich catalog with motivating cognitive exercises as well as walking and relaxation landscapes. Whether dynamic, static, 2D or virtual reality, the exercises are divided into different tabs depending on the type of activity:



Walking: A section offering a variety of walking landscapes, immersive games, and real-time gait analysis. Compatible with our EMA and AMY walking treadmills. *(Learn more at www.ezygain.com)*



Balance: A set of static cognitive exercises focused on weight-shifting, providing a detailed stabilometry report. Compatible with our EMA and AMY walking treadmills. *(Learn more at www.ezygain.com)*



Cycling: A section featuring immersive landscapes and exercises, compatible with any bike, pedal exerciser, or ergocycle equipped with our CycloSense sensor.



Virtual reality: A varied catalog of immersive walking landscapes, balance games, and relaxation experiences, designed to work on both lower and upper limbs.



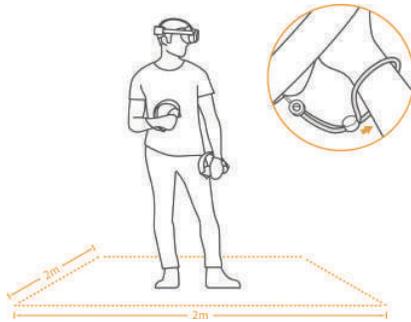
Facing camera: A set of exercises to be performed sitting or standing, requiring only the tablet. It helps improve upper and lower limb mobility, balance, fine motor skills (hands), and core strength.

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How to Set Up the VR Headset

To use VR, you'll need the VR headset, the controllers, and the EzyGain app open on the tablet.

6 Degrees of Freedom VR



The device can track your translational and rotational movements in all directions (up/down, left/right, forward/backward, pitch, roll, and yaw). Your movements in the real world will be captured and translated to what you see in the virtual world when using the appropriate content.

Ensure a safe environment before you start your VR experience.

1. Clear a safe indoor area of at least 2 meters by 2 meters. Keep the room bright, avoid spaces with mainly single-colored walls, glass, mirrors, moving pictures or other similar objects.
2. Remove the protective film that covers the headset front cameras. Wear the lanyards connected to the Controllers.
3. Set up your environment by following instructions on the VR Headset screen.

Installation steps



1 Power on the controller

Short press the Home button for 1 second until the status indicator flashes blue.



2 Power on the VR headset

Long press the Power button for 2 seconds until the status indicator turns blue.



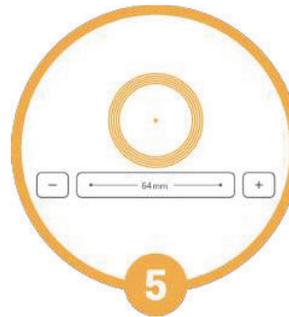
3 Wear your headset for a comfortable fit and view

Adjust the strap so that the back of your head rests on the padding. Fine-tune the length and position of the strap to give a clear view.



Fine-tune the top strap

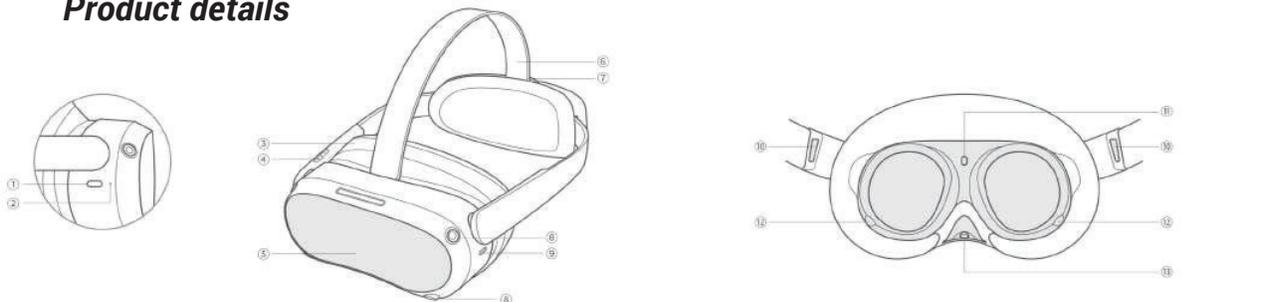
Fine-tune the head strap to reduce pressure on the forehead.



Interpupillary distance (IPD) adjustment

In System Setting, go to « Settings » ► « Display » to adjust IPD, tap « + » or « - » button to slightly adjust IPD until the picture is clear.

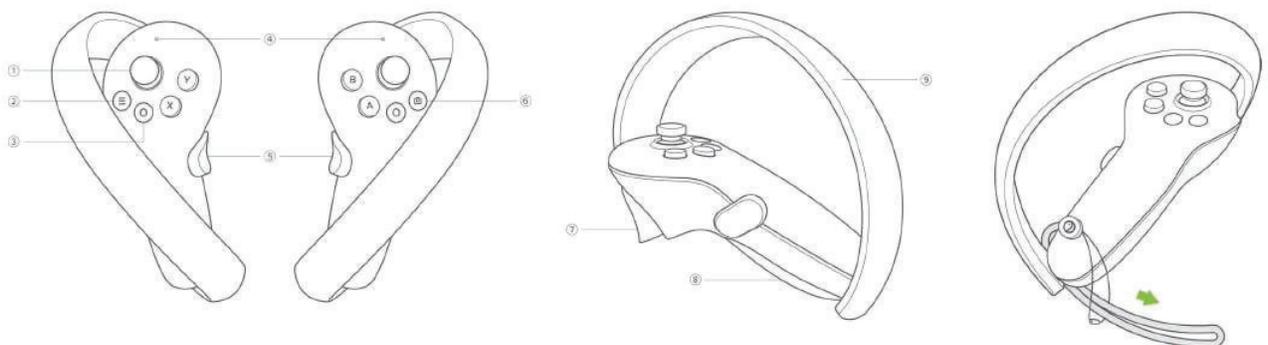
Product details



VR Headset Status Indicator Legend

Blue: Powered on with battery over 20%
Yellow: Charging; Battery is less than 98%
Red: Charging; Battery is less than 20%
Green: Charging; Battery is more than 98% or charge complete
Blue flashing: Shutting down
Red flashing: Battery is less than 20%
Off: Sleeping or Powered off

- 1 **Power**
Power on: Long press for 2 seconds
Power off: Long press for 5 seconds
Hardware reset: Long press for 10 seconds
Short press to enter sleep or wake up
- 2 **Status Indicator**
- 3 **Face Cushion**
- 4 **Volume**
- 5 **RGB See Through Camera**
Do not block during use.
- 6 **Top Strap**
- 7 **Strap Dial**
- 8 **Tracking Cameras**
Do not block during use.
- 9 **USB-C Interface**
- 10 **Left/Right Speaker**
- 11 **Proximity Sensor**
The system wakes up when the VR headset is put on, sleeps when VR headset is taken off.
- 12 **Eye Tracking Cameras**
Pro version only. Do not block during use.
- 13 **Face Tracking Camera**
Pro version only. Do not block during use.



Controller Status Indicator Legend

Off: Connected or Powered off
Blue: Firmware updating in progress
Blue flashing: Searching for connection
Red and blue flashing alternately: Pairing in progress

- 1 **Joystick**
- 2 **Menu**
- 3 **Home**
Power on: Short press
Power off: Long press for 6 seconds
Return home screen: Short press
Screen recentering: Press for 1 second
- 4 **Status Indicator**
- 5 **Grip**
- 6 **Capture**
- 7 **Trigger**
- 8 **Battery Case**
Open: Slide down the toggle and pop up the battery case.
Lock: Push the battery case to lock.
- 9 **Tracking Ring**
Do not block during use.

*Note: Pass the Controller Lanyard through the string as shown and lock at the end of the Controller

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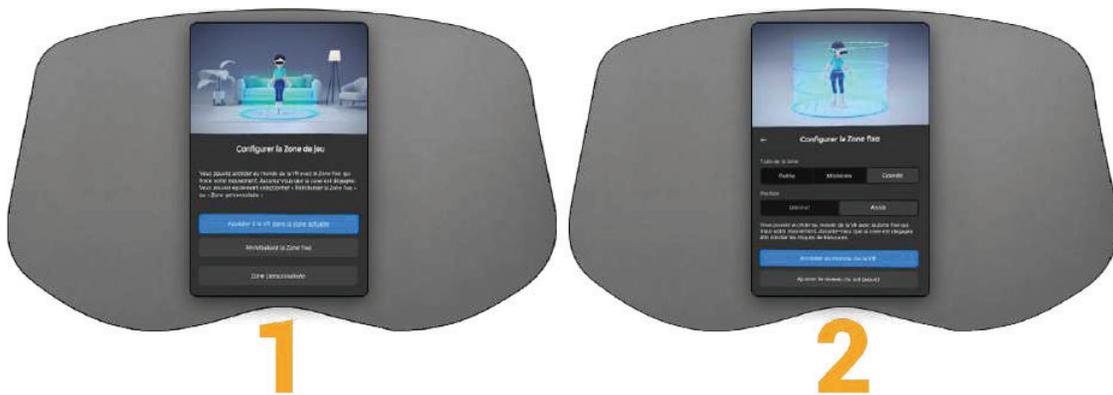
How to Start EzyGain VR

Once you have properly set up and powered on the VR headset, follow these steps to launch the EzyGain VR software.

Play boundary configuration

1 - Accessing VR in the current area: Define the play area that is directly around you. When you put on the headset, the boundary of the area is symbolized by a turquoise blue line.

2 - Set up the fixed area: If you want to reset the play space, select “Reset Fixed Area” (1). Then, determine the size of the play area by choosing either “Small”, “Medium”, or “Large”, depending on the available space around you. If you’re using a device like a treadmill or an ergocycle, select “Large”.



It is essential to perform this operation in close proximity to the patient to ensure they are properly included within the play zone. The therapist must position themselves very close to the patient to carry out the calibration accurately.

Make sure the patient is already in their designated position (whether on a treadmill, a bike, sitting, or standing) before starting the calibration. This will ensure a safe and immersive experience for the patient.

Wi-Fi connection

Click the Wi-Fi symbol in the taskbar, the headset will automatically search for any Wi-Fi in the area. Choose your Wi-Fi and enter the password. When it is done, click the “enter-key” button, then “Connect”. You are now connected to the selected Wi-Fi.



Wi-Fi is recommended for backing up your data to the cloud and automatically updating your software to benefit from improvements and new exercises. However, it is not required for the device to function properly.

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Connection between the headset and the tablet

1 - Ensure Bluetooth is enabled: : Make sure Bluetooth is turned on for both the tablet and the VR headset.

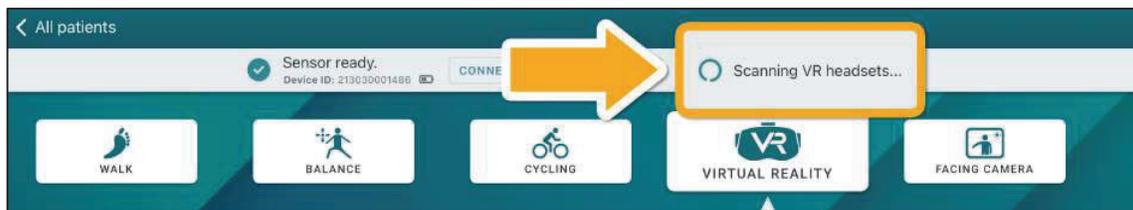


Bluetooth on iPad tablet



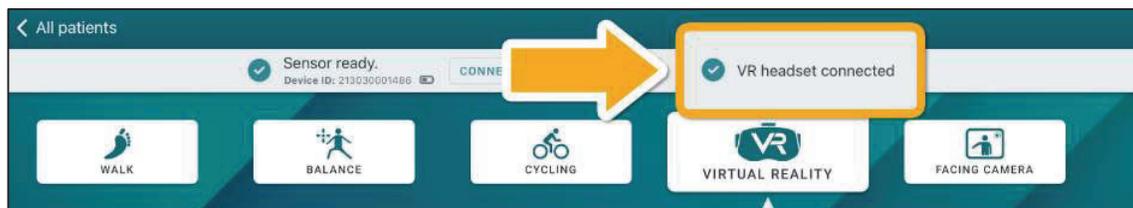
Bluetooth on VR headset

2 - Open the EzyGain app: On the tablet, launch the EzyGain app, select a session, and navigate to the "Virtual Reality" section.



The EzyGain app scanning VR headsets around...

3 - Pair the devices: When you enter the "Virtual Reality" section on the tablet, it will automatically start scanning for nearby VR headsets. To connect, put on the headset and open the EzyGain VR app in the "Applications" menu. With Bluetooth enabled on both devices, they will pair automatically.



The VR headset is now connected to the EzyGain app!

After connecting the devices, you can now start to use EzyGain VR!

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Launching an EzyGain VR Exercise



You can now set up an activity on the tablet by selecting parameters such as the type of exercise and task orientation. Once you have configured the settings to your preference, click the “Start exercise” button on the tablet. The virtual environment will then launch immediately in the VR headset, immersing you in the selected activity. After completing the exercise, a score screen will be displayed, showing your performance results and progress.

A few examples of EzyGain VR exercises



Exercises for the upper limbs, fingers, hands... and much more to explore!

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Setting up the CycloSense sensor

To use CycloSense, you'll need to connect the sensor to a bike or ergocycle (not included in the EzyGain VR kit) and have the EzyGain app open on the tablet, with Bluetooth activated.



1 - Attaching the sensor to the pedal crank: Start by attaching the CycloSense sensor to your bike's pedal crank using the provided Velcro strap. Ensure that the sensor is securely fastened to ensure accurate measurements.

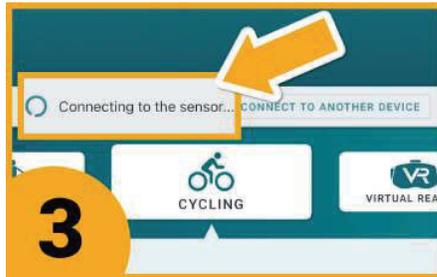


The CycloSense automatically turns on as soon as it detects movement and flashes red to indicate it is working. If the red light does not flash, it means the battery needs to be replaced.

To change the battery, open the small battery cover on the back of the sensor and insert a new lithium button battery (**model CR2025**).



2 - Connecting to the EzyGain app: Open the EzyGain app on your tablet. Once the app is launched, navigate to the "Cycling" section.



3 - Automatic sensor detection: The app will automatically detect the CycloSense sensor. If another EzyGain device is already connected to the app, you will need to click on the "Connect to another device" button to establish a connection with the CycloSense.



4- Connection confirmation: Wait for the app interface to display the message "Sensor ready" at the top of the screen. This message confirms that the CycloSense sensor is correctly connected and ready for use.

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Setting up CycloSense with VR

To use CycloSense with VR, you'll need to connect the sensor to a bike or ergocycle (not included in the EzyGain VR kit), the VR headset, the controllers, and have the EzyGain app open on the tablet, with Bluetooth activated.

1 - Open to the EzyGain app: To use the CycloSense with Virtual Reality, start by navigating to the "Virtual Reality" menu in the EzyGain app, then select the "Headset + Cycling" subsection.

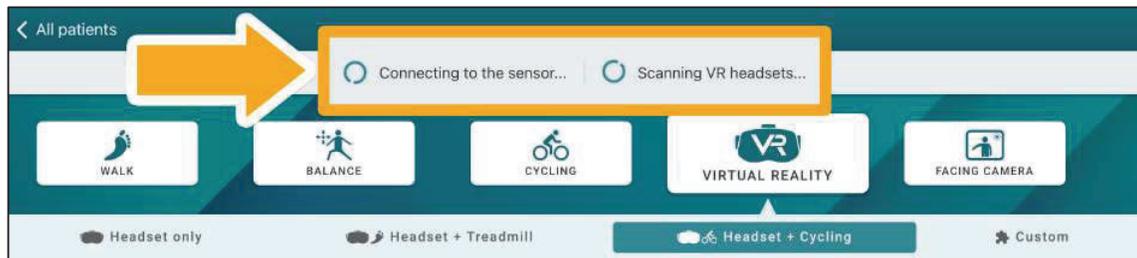


Choose the « Headset + Cycling » subsection

2 - Connecting to the EzyGain app: Both the CycloSense and the VR headset will be automatically detected by the app.



To ensure proper detection, it's important to follow the two distinct steps outlined in the previous chapters: setting up and connecting the CycloSense, and pairing the VR headset. Once these steps are completed, both devices will be correctly synced for a smooth and immersive experience.



The CycloSense sensor and the VR headset are now connected to the EzyGain app!

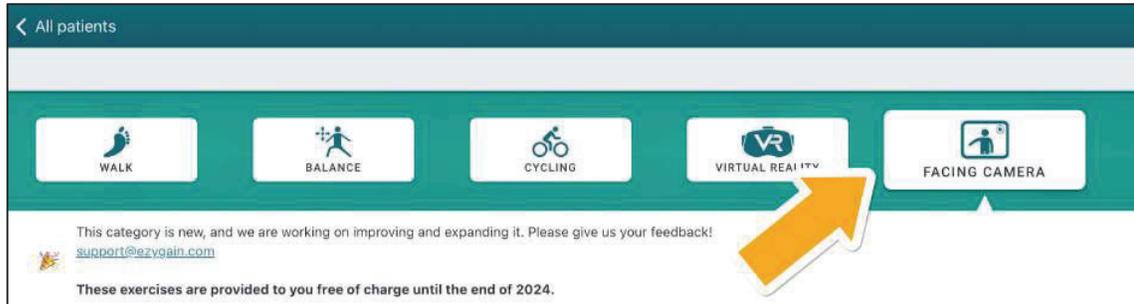
After connecting the devices, you can now start to use CycloSense with EzyGain VR!

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How to use the facing camera feature

The “Facing camera” menu

1 - Open the EzyGain app on your tablet. Once the app is launched, navigate to the “Facing camera” section.



2 - Select the movement you want to work on :



Upper limb: Exercises performed in the air, on a smooth surface, or with gravitational suspension.

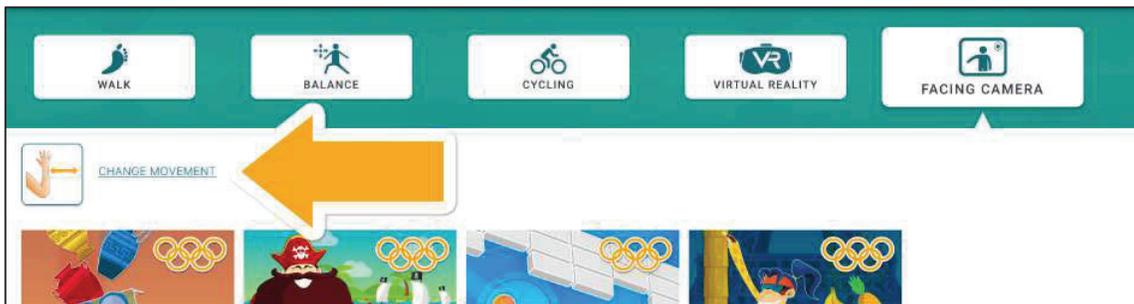


Torso: Exercises to be performed sitting or standing, aimed at strengthening core stability and balance.



Lower limb: Exercises performed sitting or standing, with or without support from assistive devices. Some exercises include movement.

You can switch to a different exercise anytime by clicking “Change movement” at the top of the menu:

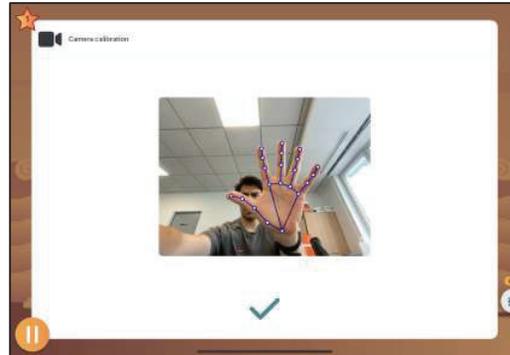
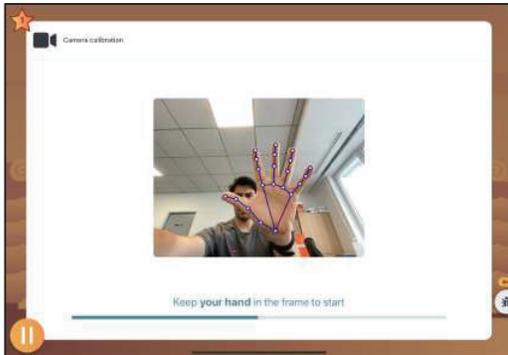




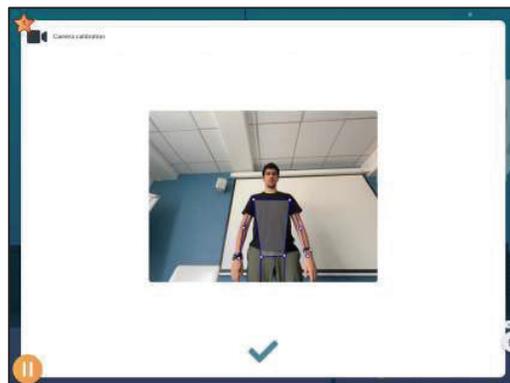
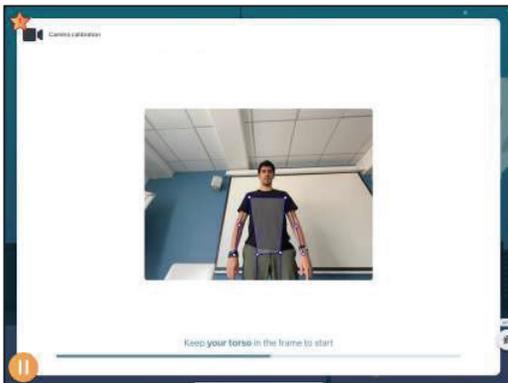
How to calibrate the facing camera exercises

Whether seated or standing, start the exercise and keep your hand / your torso / your shoulders within the frame to begin. Wait for the gauge to fill to ensure proper calibration of your position.

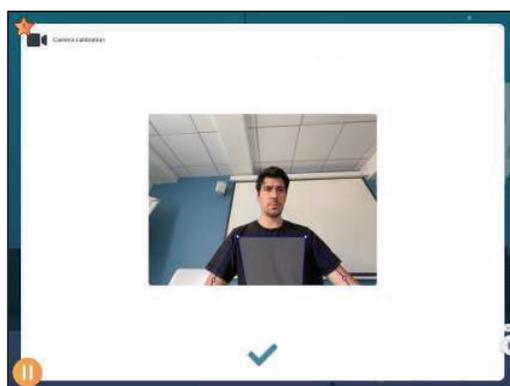
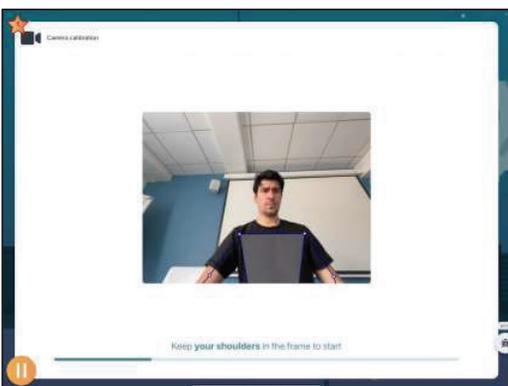
Hand calibration :



Torso calibration :



Shoulder calibration :



Once the calibration is done, the exercise will start!



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EzyGain VR kit in video!



We recommend watching this e-learning video that describes the use of the product in detail, step by step.

You can also find this video in the Training tab of the app.

Contact

support@ezygain.com



Watch the e-tutorial here

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