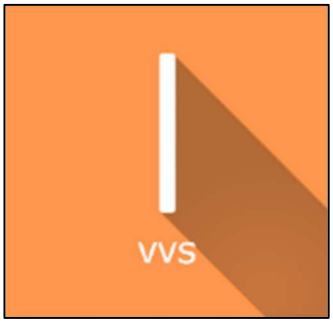


Subjective Visual Vertical (SVV)

Module tutorial

Table of contents

1. GENERAL

1.1. Description

Subjective Visual Vertical (SVV) is an immersive 3D simulation software based on virtual reality technology, meaning a person can be immersed in a digitally created artificial world.

The **SVV** software is used to assess the perception of verticality without the influence of the visual field.

1.2. Required accessories

Headset. Xbox controller, Hive controller(s) or keyboard are all optional.

1.3. Patient setup

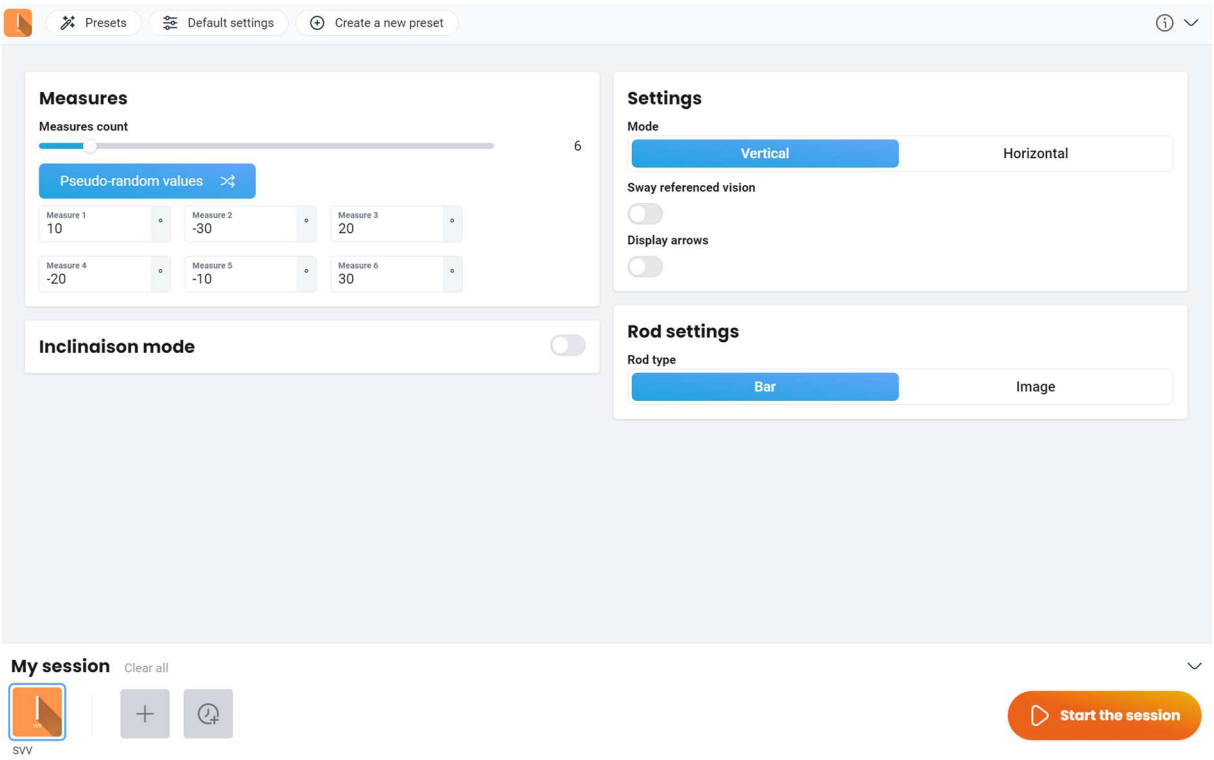
The principle of measuring patients' Subjective Visual Vertical is that they have no vertical or horizontal, visual or proprioceptive reference.

It is therefore recommended to take the measurements using the following installation:

- Patient seated (preferably on an upholstered seat, a swivel chair is ideal).
- Feet on a footrest, not on the ground.
- Keyboard, controller(s) or Xbox controller in hand so they can take the measurements themselves (if possible).

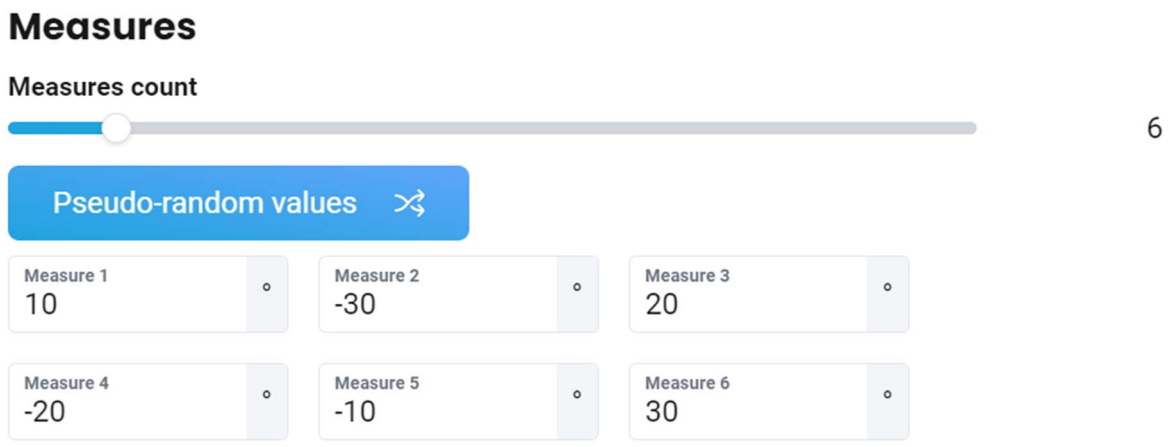
2. Settings

2.1. Session settings



The variable settings for this module are as follows:

2.1.1. Measures



Used to define the value of the various measurements for the entire protocol.

There are many different protocols in literature.

It is often recommended to take:

- at least 6 measurements (6 to 12).
- Variable initial angle, same tilts to the right and left in random order.
- Alternating sequence.

Measures count:

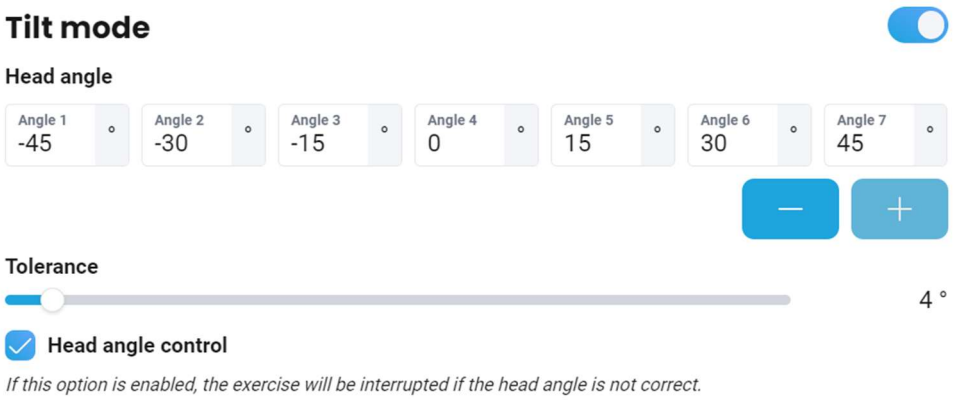
Number of measures taken during the session.

Value: 4 to 24.

Pseudo-random values:

Defines pseudo-random values for measurements. Values are mirrored: they are tilted both to the right (positive values) and to the left (negative values).

2.1.2. Tilt mode



Tilt mode:

Checking this option unlocks the following parameters:

Head angle:

Used to define head inclination values to be measured. There are 7 by default, you can choose 1, 3, 5 or 7.

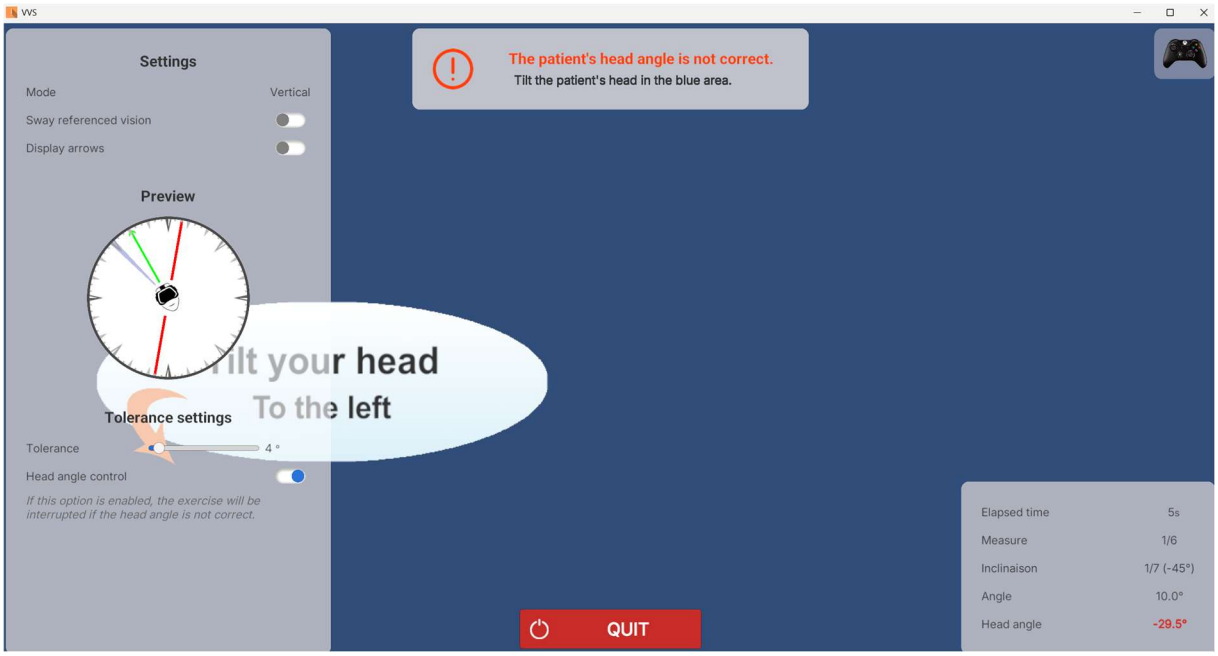
Delete or add measures by clicking on the “**-**” or “**+**” button.

Tolerance :

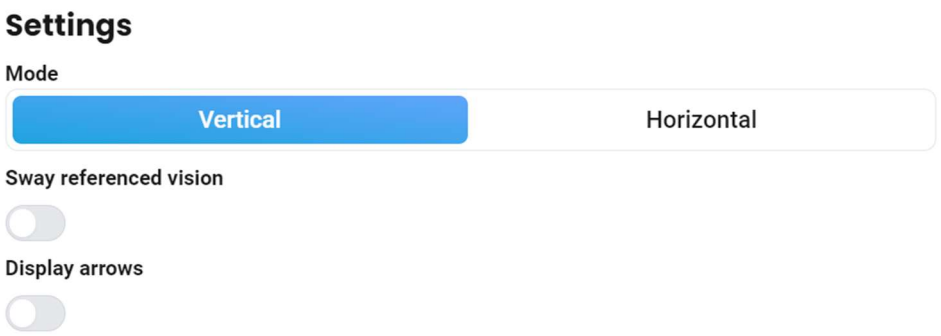
Modifies the tolerance threshold for the head tilt angle.

Value: 2.0 to 45.0.

Respect head angle: box checked by default. The session pauses if the angle is not respected. (Example below)



2.1.3. Settings



Mode:

Allows you to choose between vertical or horizontal measurements for the entire protocol.

Sway referenced vision:

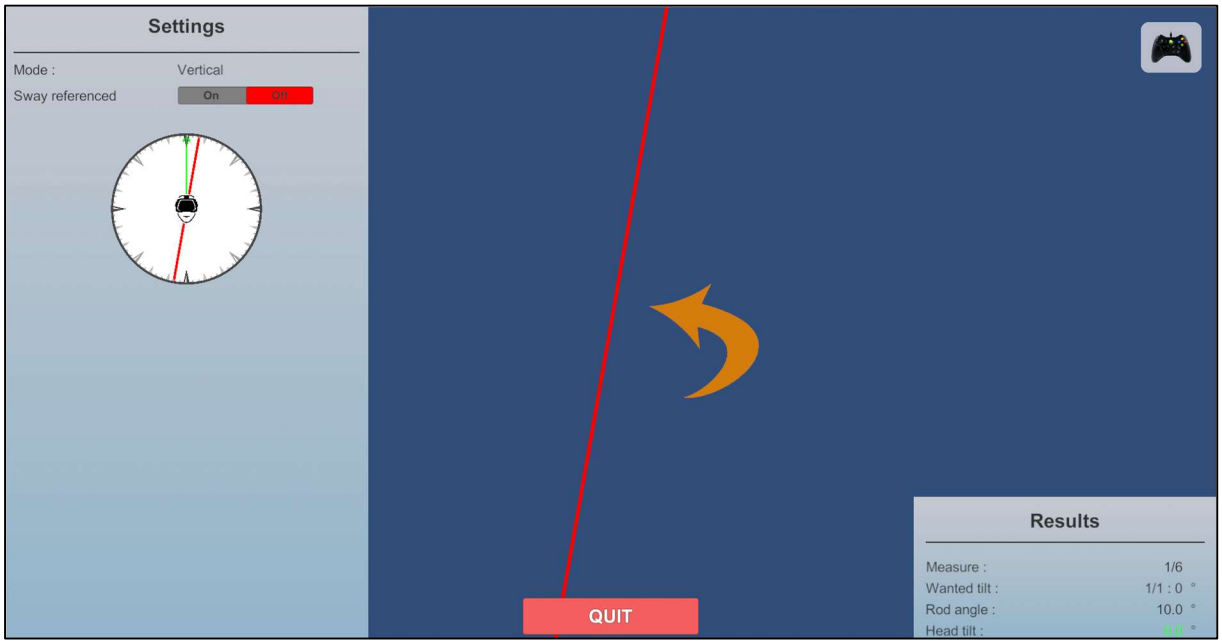
Check this option to have the image displayed in the VR headset matched to the patient's head movements.

If enabled, the bar is “fixed” in front of the patient, and tilts with the patient's own head tilts. Measured values are relative to the earth's vertical, without taking head tilt into account.

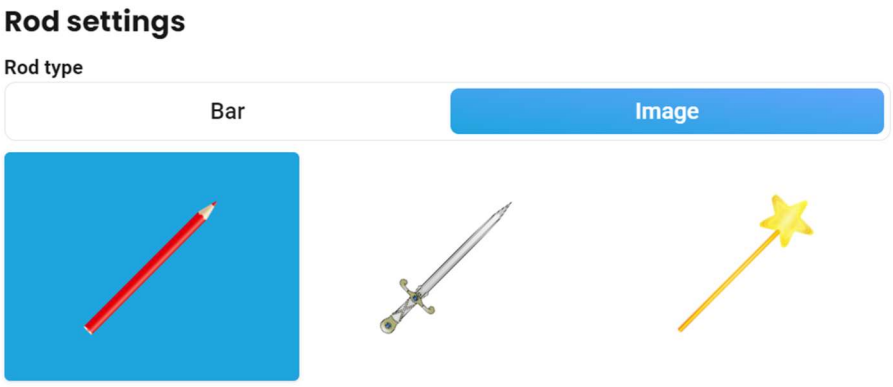
Otherwise, the bar is in “real conditions”, as if it were floating in the room. It is therefore unaffected by the patient's head movements.

Display arrows:

Check this option to make the arrows visible and help the patient visualize the direction of movement of the bar (right or left).



2.1.4. Rod settings

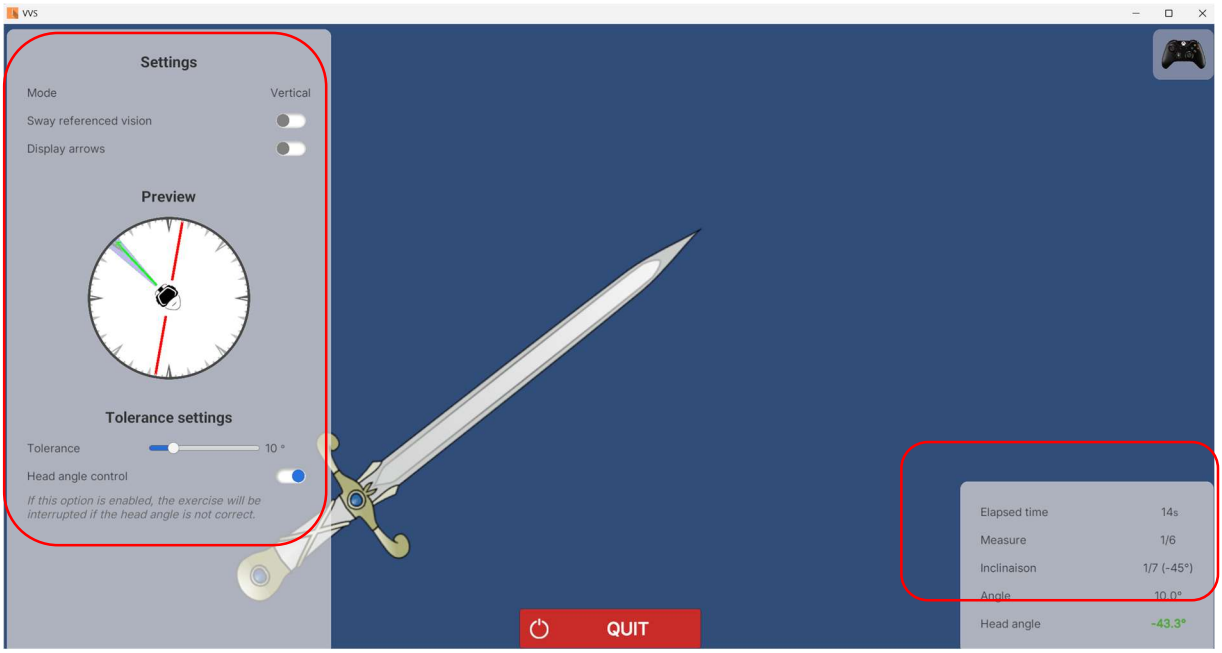


Changes the type of rod displayed on the screen.

3. Module

3.1. Session

Once the presets have been defined, click on the "**Start the session**" button.

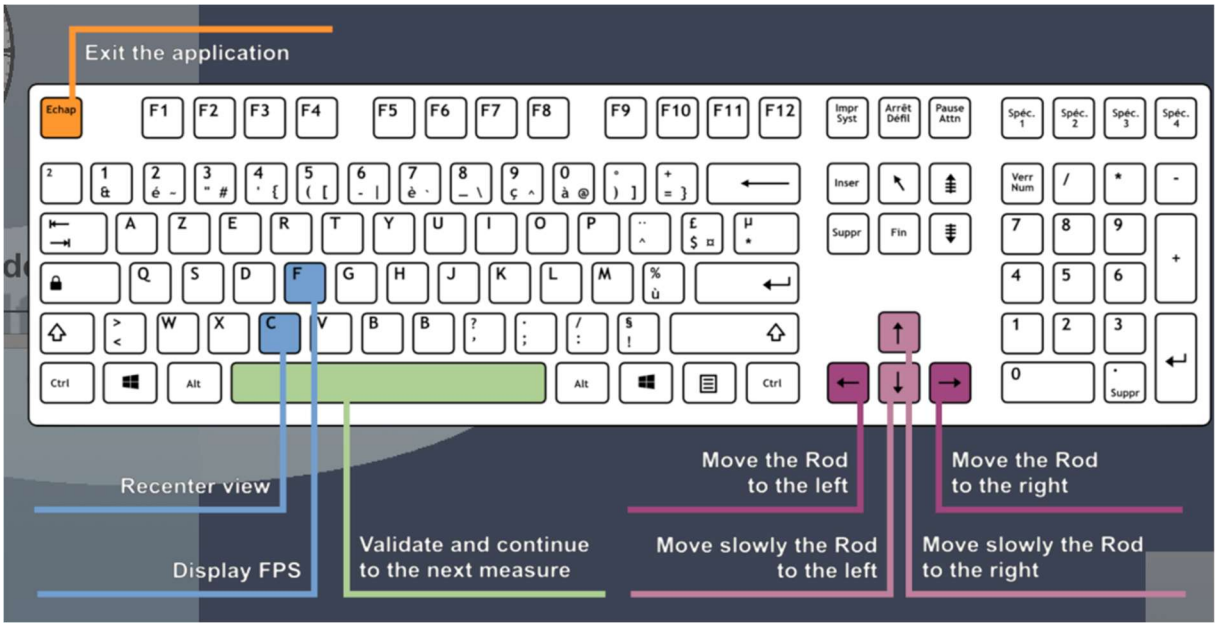


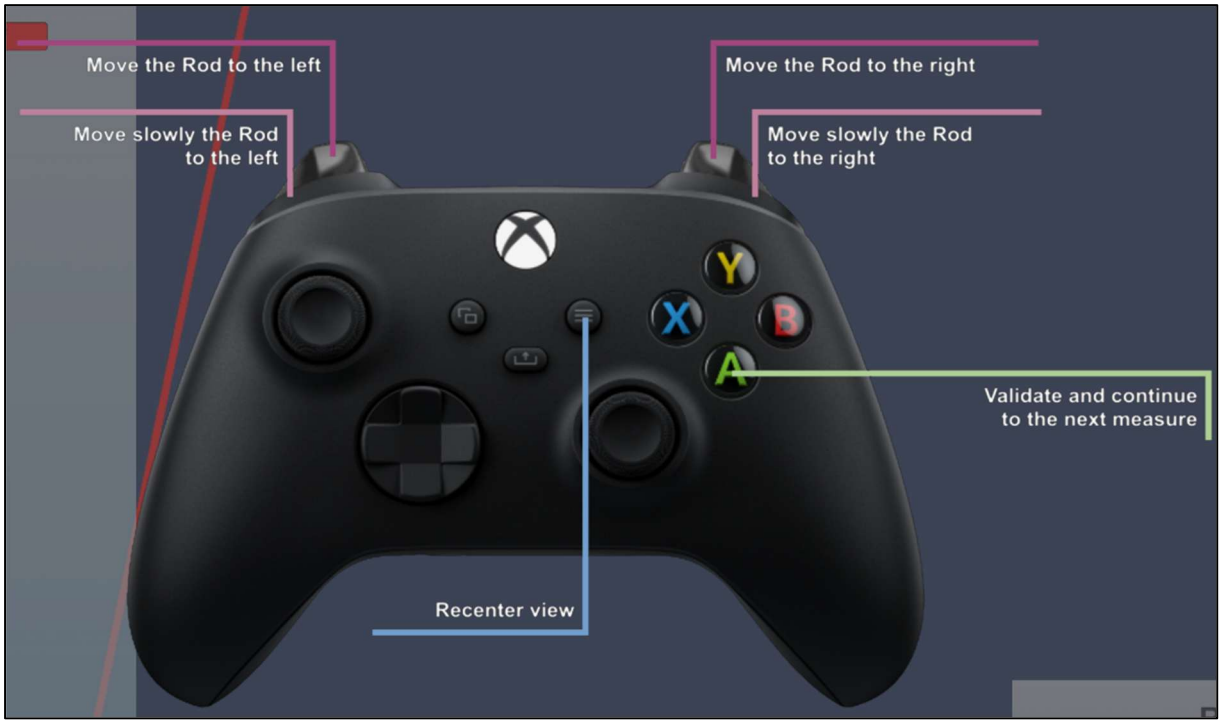
During the session, the user can modify the parameters from the **left side of the screen**. They are not visible to the patient.

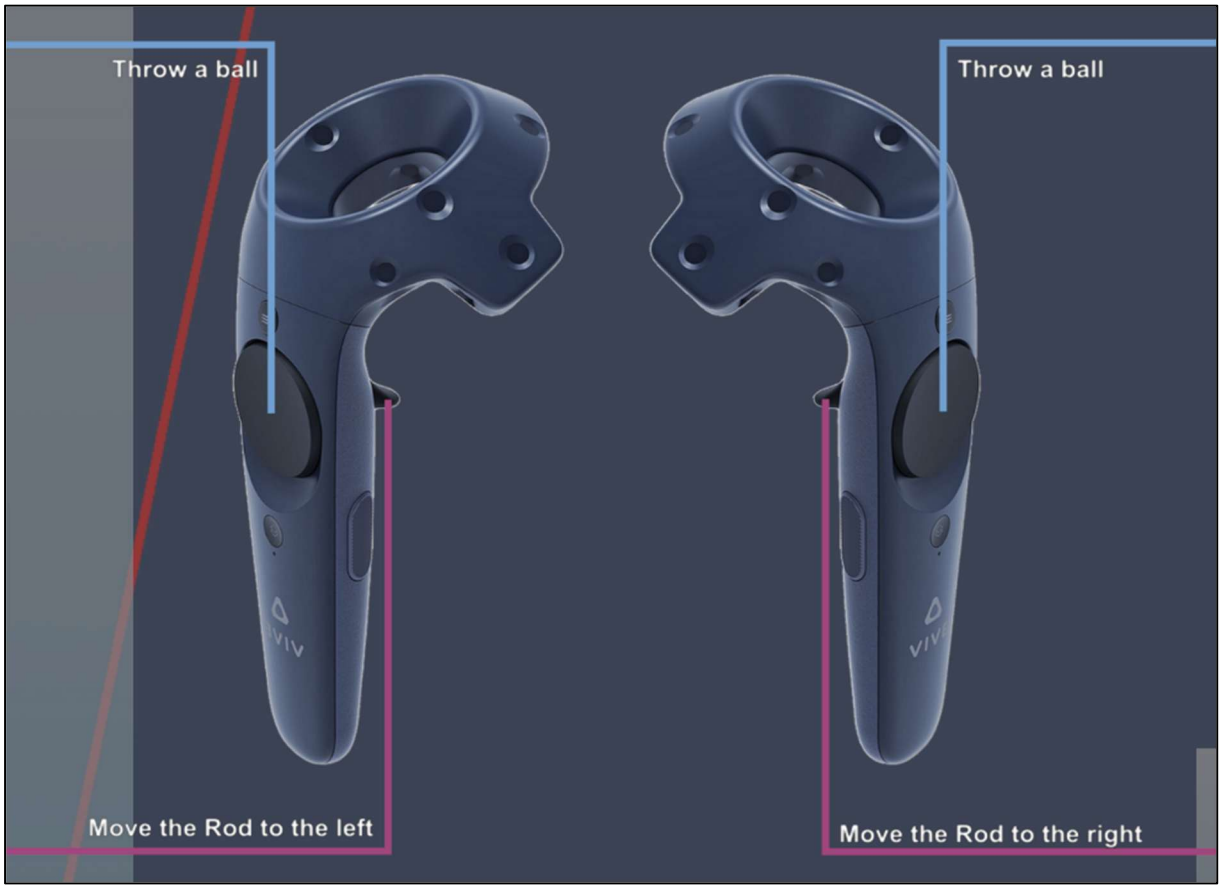
In the bottom right corner of the screen, the user can view the results of the session in real time.

3.2. Shortcuts

During the session, the shortcut list is found by clicking on the Xbox controller icon in the upper right corner of the screen.






Throw a ball
Throw a ball
Move the Rod to the left
Move the Rod to the right

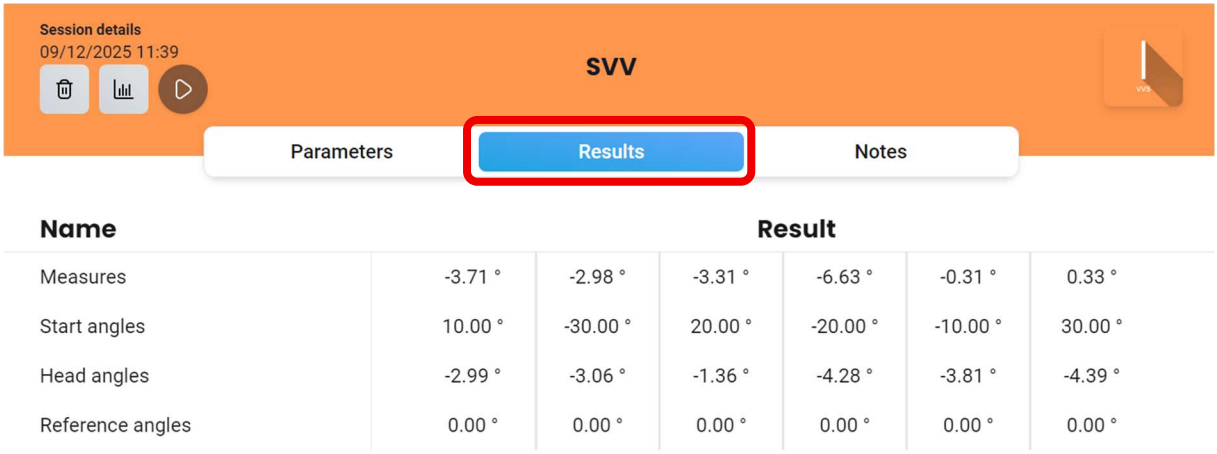

Throw a ball
Throw a ball
Move the Rod to the left
Move the Rod to the right
Measure :

3.3. Results

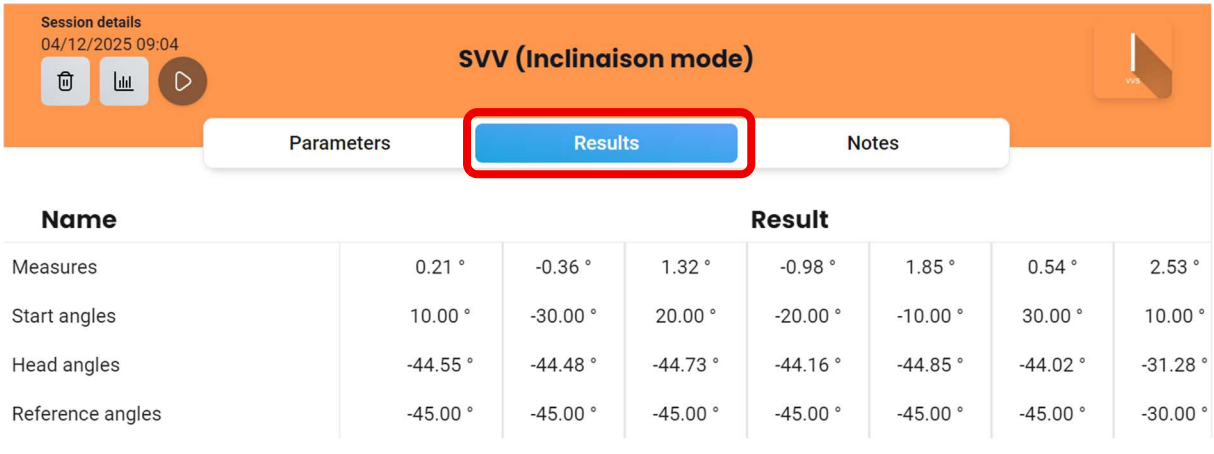
At the end of the session, the different head inclination values of the patient are displayed.

3.3.1. Summarized results

To access the summary results, click on “Results” at the end of the session



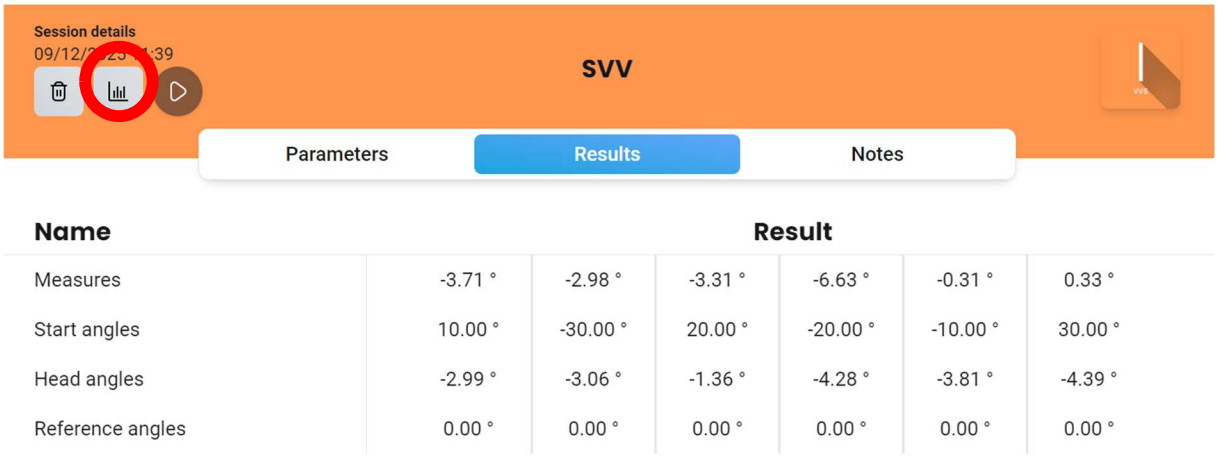
Name	Result					
Measures	-3.71 °	-2.98 °	-3.31 °	-6.63 °	-0.31 °	0.33 °
Start angles	10.00 °	-30.00 °	20.00 °	-20.00 °	-10.00 °	30.00 °
Head angles	-2.99 °	-3.06 °	-1.36 °	-4.28 °	-3.81 °	-4.39 °
Reference angles	0.00 °	0.00 °	0.00 °	0.00 °	0.00 °	0.00 °



Name	Result						
Measures	0.21 °	-0.36 °	1.32 °	-0.98 °	1.85 °	0.54 °	2.53 °
Start angles	10.00 °	-30.00 °	20.00 °	-20.00 °	-10.00 °	30.00 °	10.00 °
Head angles	-44.55 °	-44.48 °	-44.73 °	-44.16 °	-44.85 °	-44.02 °	-31.28 °
Reference angles	-45.00 °	-45.00 °	-45.00 °	-45.00 °	-45.00 °	-45.00 °	-30.00 °

3.3.2. Graphs and report

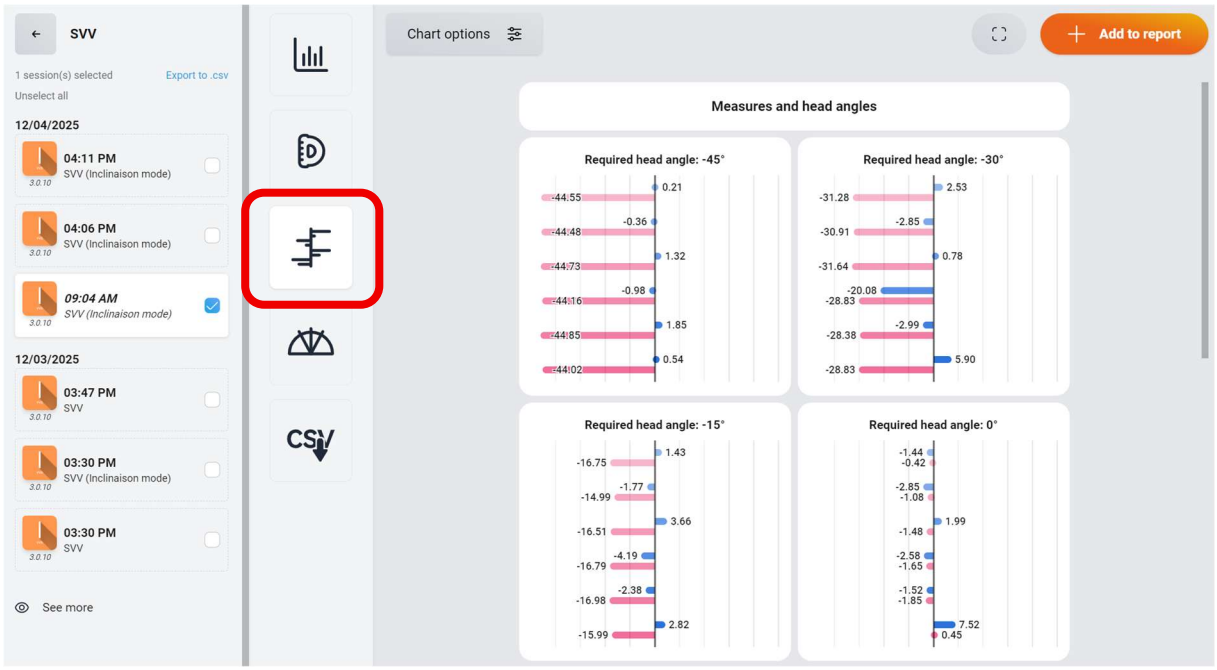
To find the detailed results and to generate a report, click on the histogram icon.

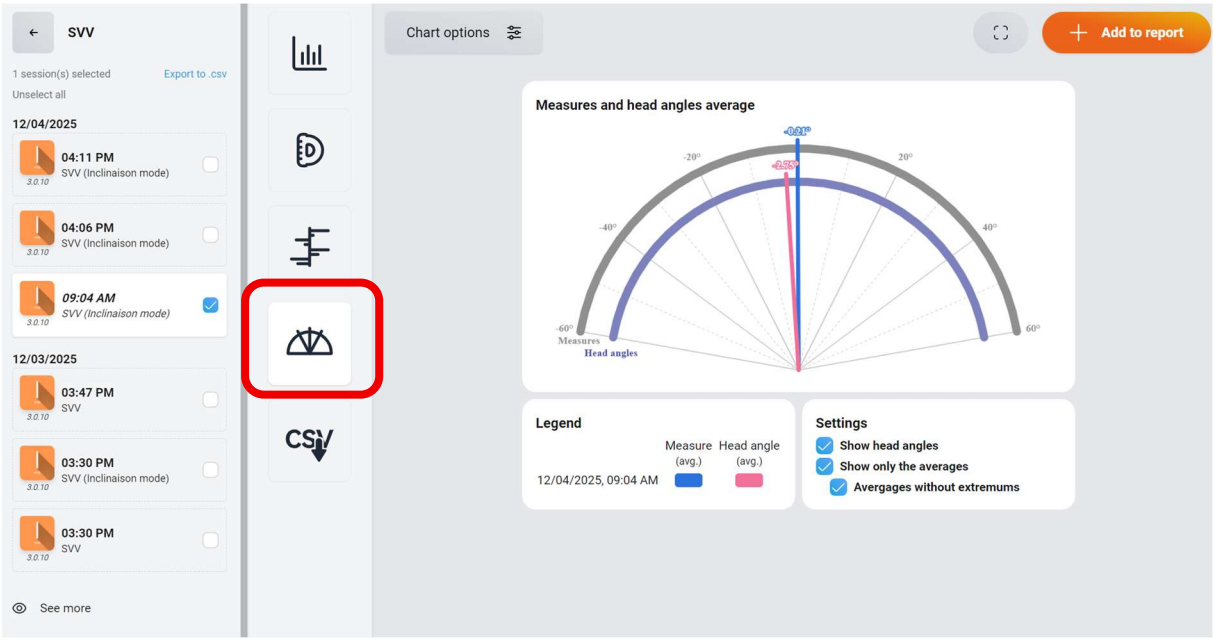


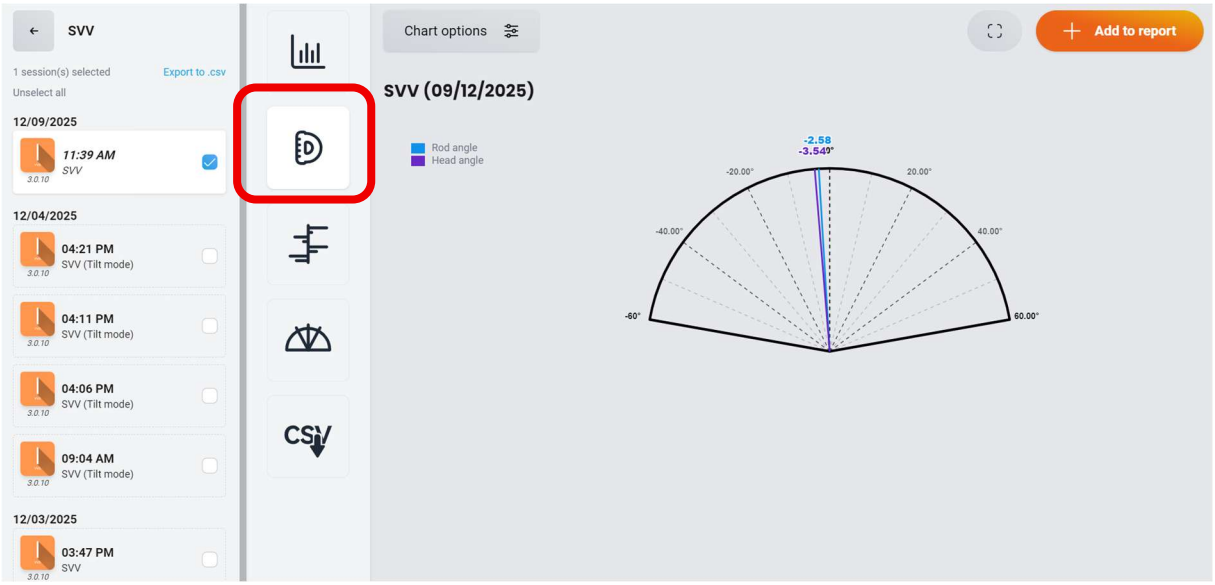
Name	Result					
Measures	-3.71 °	-2.98 °	-3.31 °	-6.63 °	-0.31 °	0.33 °
Start angles	10.00 °	-30.00 °	20.00 °	-20.00 °	-10.00 °	30.00 °
Head angles	-2.99 °	-3.06 °	-1.36 °	-4.28 °	-3.81 °	-4.39 °
Reference angles	0.00 °	0.00 °	0.00 °	0.00 °	0.00 °	0.00 °

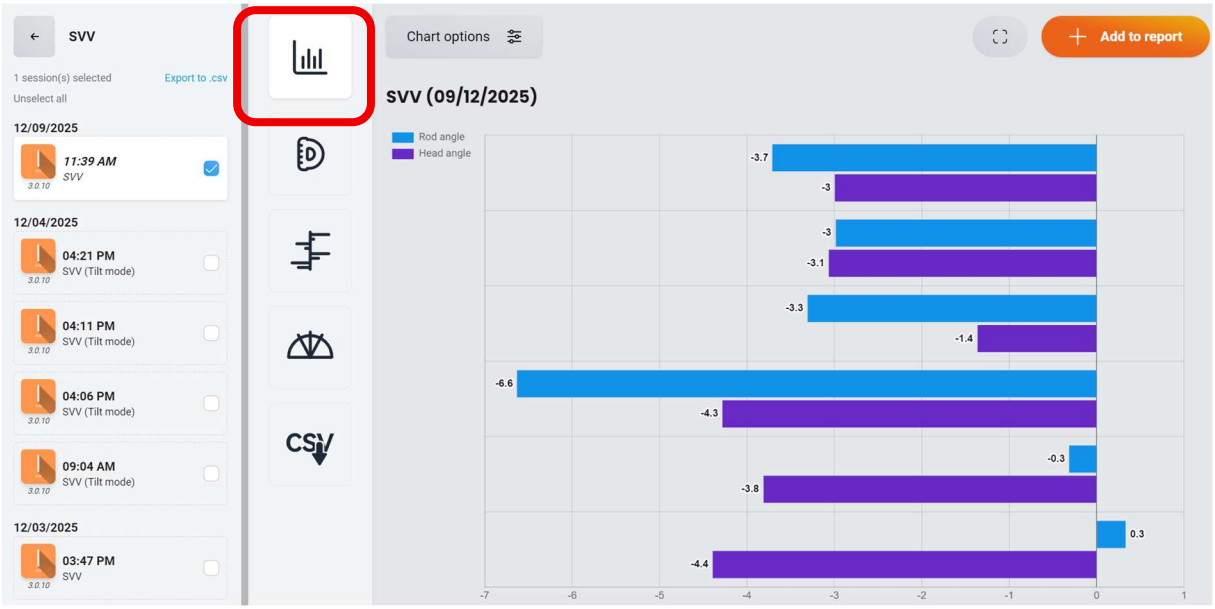
You can view measurements and results in different formats by selecting the appropriate button.

Examples:




SVV
1 session(s) selected
Export to .csv
Unselect all
12/04/2025
04:11 PM
SVV (Inclinaison mode)
04:06 PM
SVV (Inclinaison mode)
09:04 AM
SVV (Inclinaison mode)
12/03/2025
03:47 PM
SVV
03:30 PM
SVV (Inclinaison mode)
03:30 PM
SVV
See more
Chart options
Add to report
Measures and head angles average
-0.01°
-2.58°
-20°
20°
-40°
40°
-60°
60°
Measures
Head angles
Legend
Measure (avg.)
Head angle (avg.)
12/04/2025, 09:04 AM
Settings
Show head angles
Show only the averages
Avergages without extremums


SVV
1 session(s) selected
Export to .csv
Unselect all
12/09/2025
11:39 AM
SVV
12/04/2025
04:21 PM
SVV (Tilt mode)
04:11 PM
SVV (Tilt mode)
04:06 PM
SVV (Tilt mode)
09:04 AM
SVV (Tilt mode)
12/03/2025
03:47 PM
SVV
Chart options
Add to report
SVV (09/12/2025)
Rod angle
Head angle
-2.58
-3.549°
-20.00°
20.00°
-40.00°
40.00°
-60°
60.00°


SVV
1 session(s) selected
Export to .csv
Unselect all
12/09/2025
11:39 AM
SVV
12/04/2025
04:21 PM
SVV (Tilt mode)
04:11 PM
SVV (Tilt mode)
04:06 PM
SVV (Tilt mode)
09:04 AM
SVV (Tilt mode)
12/03/2025
03:47 PM
SVV
Chart options
Add to report
SVV (09/12/2025)
Rod angle
Head angle
-3.7
-3
-3
-3.1
-3.3
-1.4
-6.6
-4.3
-0.3
-3.8
0.3
-4.4
-7
-6
-5
-4
-3
-2
-1
0
1