

Rod & Frame Test (RFT)

Module tutorial



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1. GENERAL

1.1. Description

Rod & Frame Test (RFT) software is an immersive 3D simulation based on virtual reality technology, i.e. it allows a person to be immersed in an artificial digitally created world.

RFT is a software used to assess the perception of verticality with the influence of the visual field (tilting).

1.2. Required accessories

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

1.3. Patient setup

These are simple, limited numbers of tips drawn from the literature.

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

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 screenshot shows the 'Session settings' interface. At the top, there are tabs for 'Presets', 'Default settings', and 'Create a new preset'. The main area is divided into three sections: 'Measures', 'Settings', and 'Rod settings'. The 'Measures' section has a 'Measures count' slider set to 6, a 'Pseudo-random values' button, and six input fields for measures: Measure 1 (10), Measure 2 (-30), Measure 3 (20), Measure 4 (-20), Measure 5 (-10), and Measure 6 (30). The 'Settings' section includes a 'Mode' selector (Vertical/Horizontal), 'Sway referenced vision' and 'Display arrows' toggles, an 'Environment' selector (Box/Bedroom), and a 'Room tilt' slider set to -18°. The 'Rod settings' section has a 'Hide the rod' toggle and a 'Rod type' selector (Bar/Image). At the bottom, there is a 'My session' section with a 'Clear all' link, a 'RFT' icon, and a 'Start the session' button.

The variable settings for this module are as follows:

2.1.1. Measures

Measures

Measures count

This detailed view shows the 'Measures' settings. It features a 'Measures count' slider set to 6. Below it is a blue button labeled 'Pseudo-random values' with a refresh icon. There are six input fields for measures, arranged in two rows of three. The values are: Measure 1 (10), Measure 2 (-30), Measure 3 (20), Measure 4 (-20), Measure 5 (-10), and Measure 6 (30).

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.
- Scenery angle: several studies recommend 18° (right or left).

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

**Head angle**

Angle 1	Angle 2	Angle 3	Angle 4	Angle 5	Angle 6	Angle 7
-45°	-30°	-15°	0°	15°	30°	45°

− +

Tolerance 4 °☒ **Head angle control**

If this option is enabled, the exercise will be interrupted if the head angle is not correct.

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.

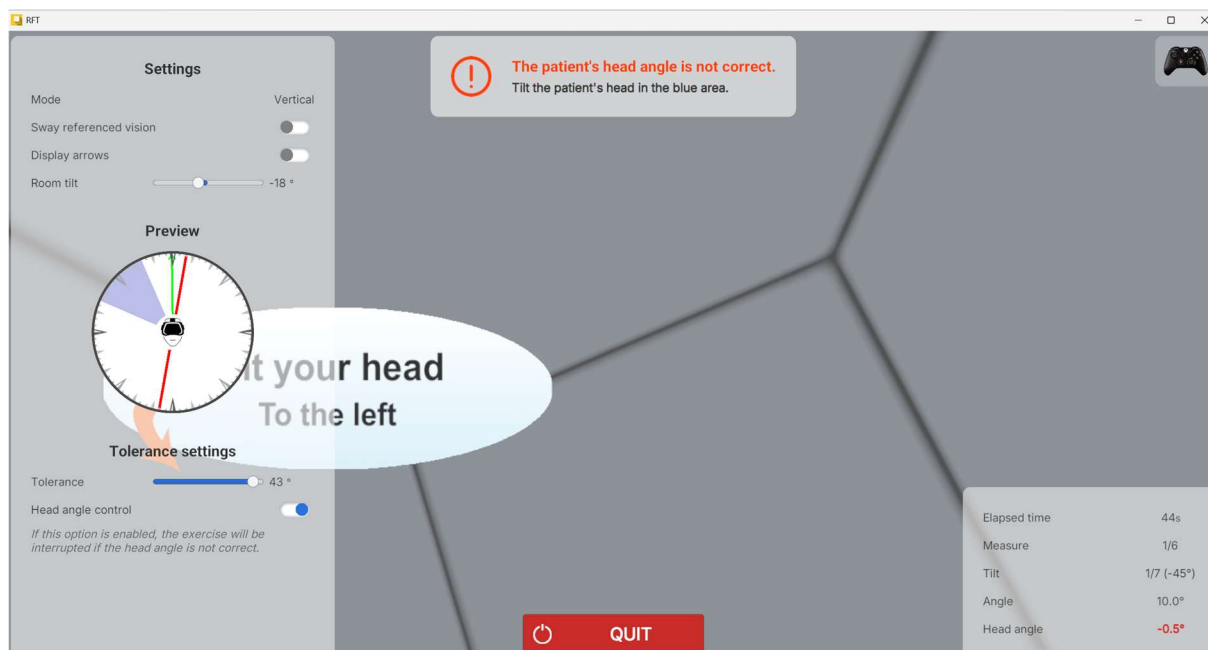
Tolerance :

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

Settings

Mode

Vertical

Horizontal

Sway referenced vision



Display arrows



Environment

Box

Bedroom

Room tilt



-18 °

Mode:

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

**Sway referenced vision:**

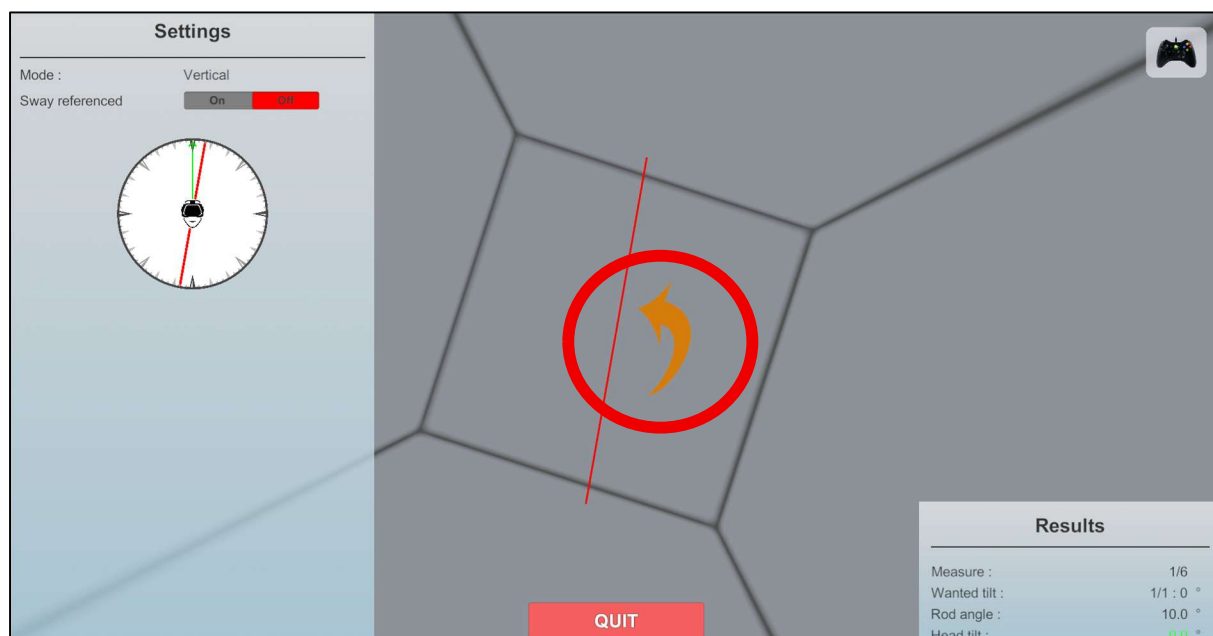
Check this option to have the image displayed in the VR headset matched to the patient's head movements.

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).

**Environment:**

- **Box:** repeats the original Rod and Frame Test principle.
- **Bedroom:** tilting room with many references, for an examination in more "natural" conditions.

Room angle:

Determines the scenery tilt angle (box or bedroom) (-18 or +18 recommended).

Value: -90 to 90°.



2.1.4. Rod settings

Rod settings

Hide the rod



Rod type

Bar	Image
-----	-------

Hide the rod: There will be no visible bar in the inclined environment you have defined.

Rod type: Changes the type of rod displayed on the screen.

Rod settings

Hide the rod



Rod type

Bar	Image
-----	-------

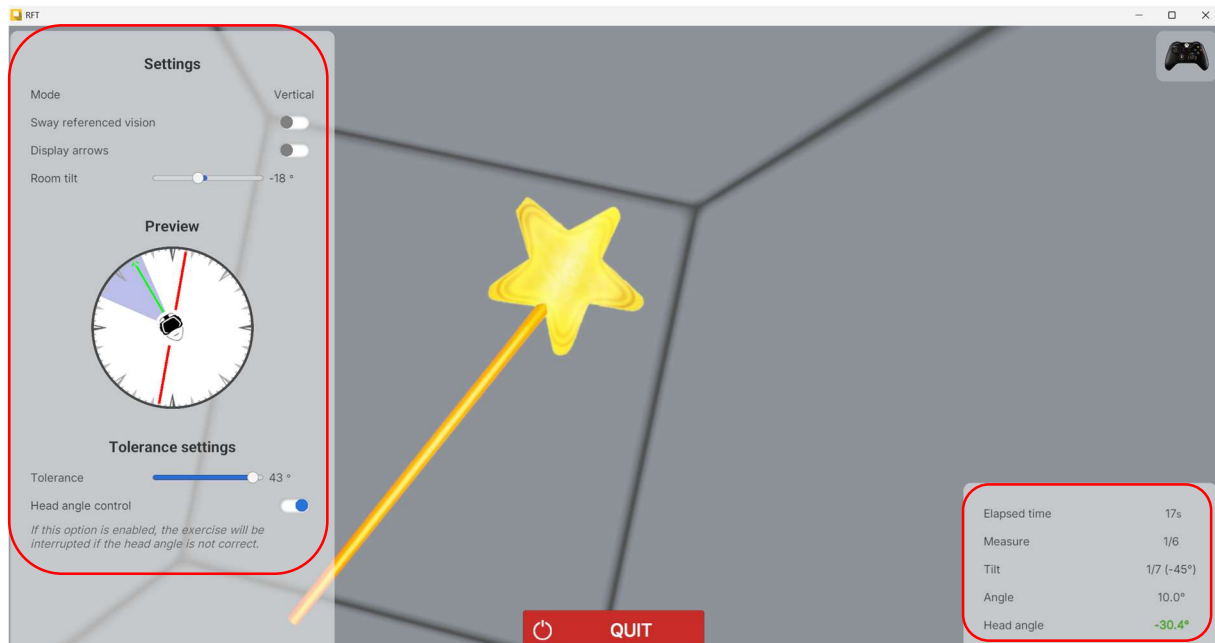




3. Module

3.1. Session

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



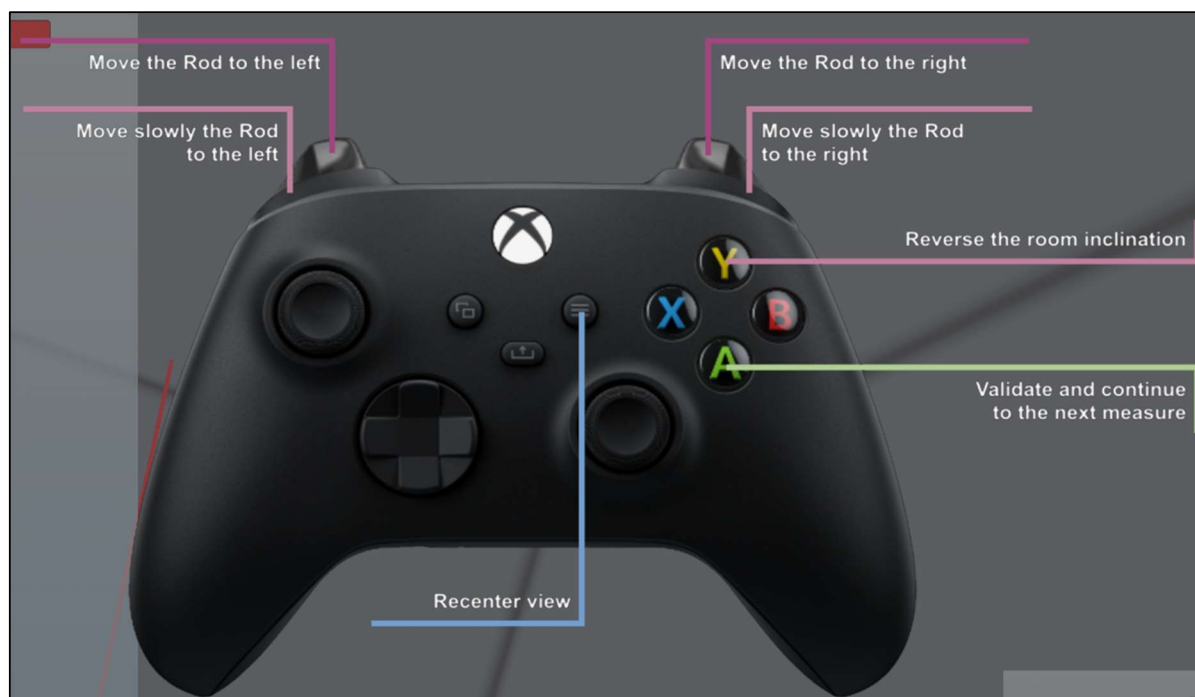
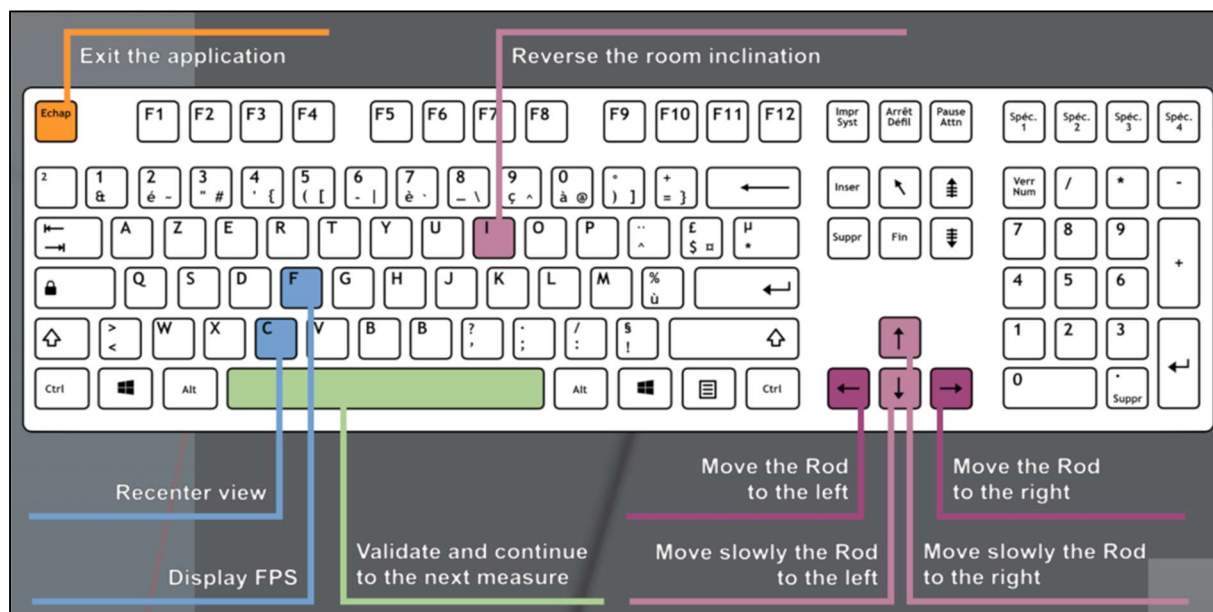
During the session, the user can modify the parameters from the **left side of the screen**. They are not visible to the patient.

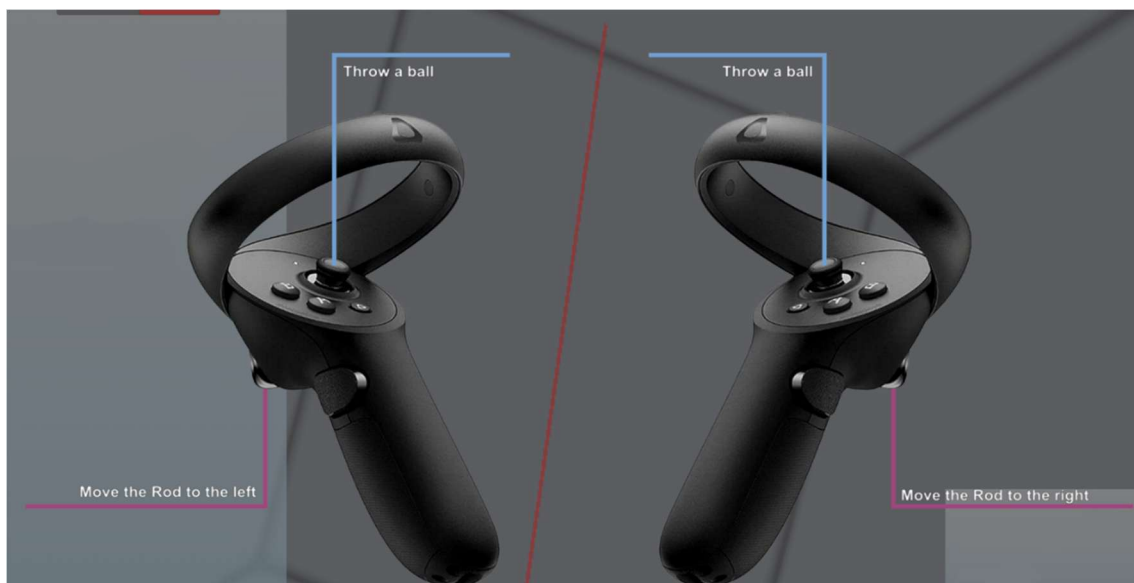
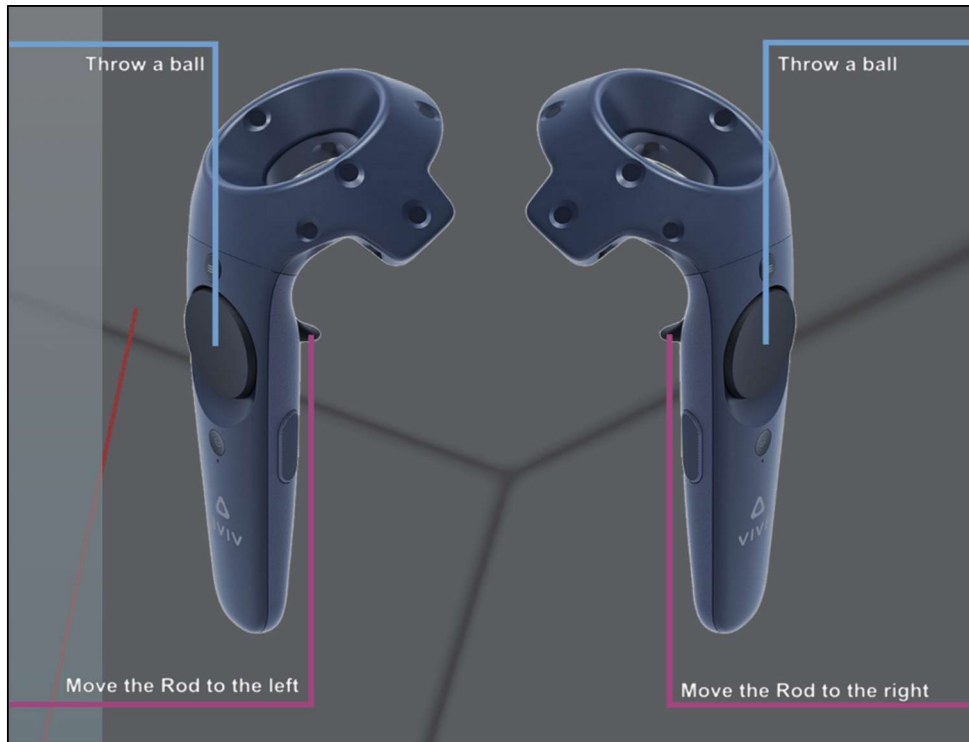
In the bottom right corner of the screen, the user can view the results of the session in real time.



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.







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, regardless of the mode displayed.

The measured values (deviation from the real vertical) are displayed along with the measurement of the patient's head tilt.

Session details 09/12/2025 12:27						
RFT						
Parameters Results Notes						
Name	Result					
Measures	0.32 °	-3.30 °	2.46 °	-2.68 °	-0.62 °	2.55 °
Start angles	10.00 °	-30.00 °	20.00 °	-20.00 °	-10.00 °	30.00 °
Head angles	6.61 °	6.64 °	6.41 °	6.04 °	6.07 °	5.82 °
Reference angles	0.00 °	0.00 °	0.00 °	0.00 °	0.00 °	0.00 °

Session details 09/12/2025 12:18							
RFT (Tilt mode)							
Parameters Results Notes							
Name	Result						
Measures	-35.46 °	0.78 °	-35.35 °	-32.85 °	-31.42 °	1.98 °	8.5 °
Start angles	10.00 °	-30.00 °	20.00 °	-20.00 °	-10.00 °	30.00 °	10.0 °
Head angles	-35.49 °	-34.03 °	-33.09 °	-32.45 °	-32.13 °	-31.66 °	-31.6 °
Reference angles	-45.00 °	-45.00 °	-45.00 °	-45.00 °	-45.00 °	-45.00 °	-30.0 °

3.3.2. Graphs and report

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



Session details
09/12/2025 12:27

RFT

Parameters

Results

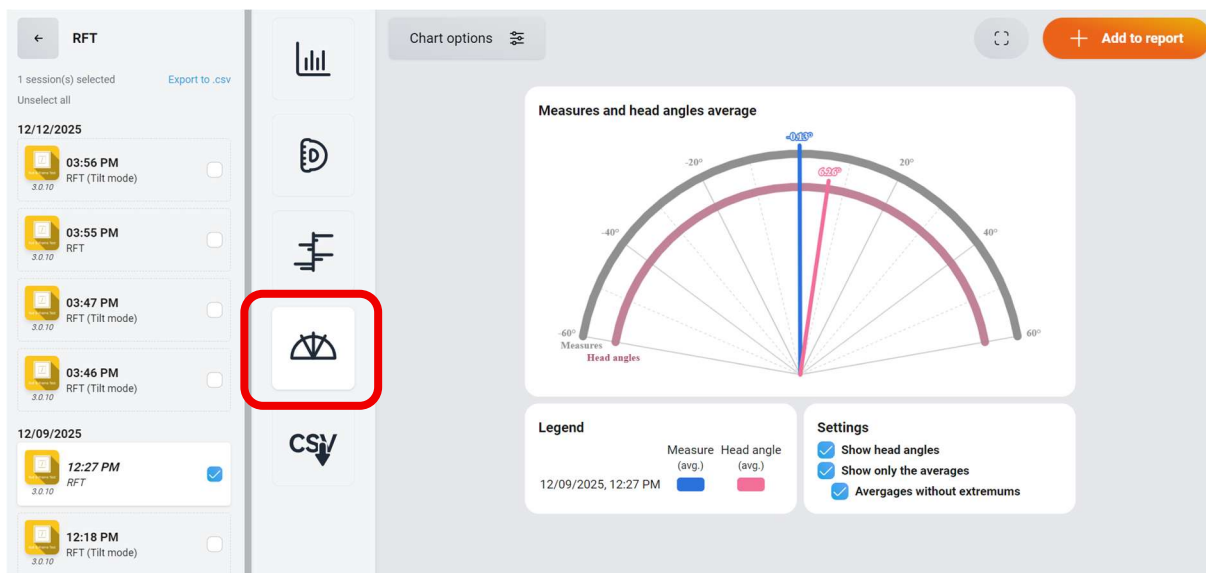
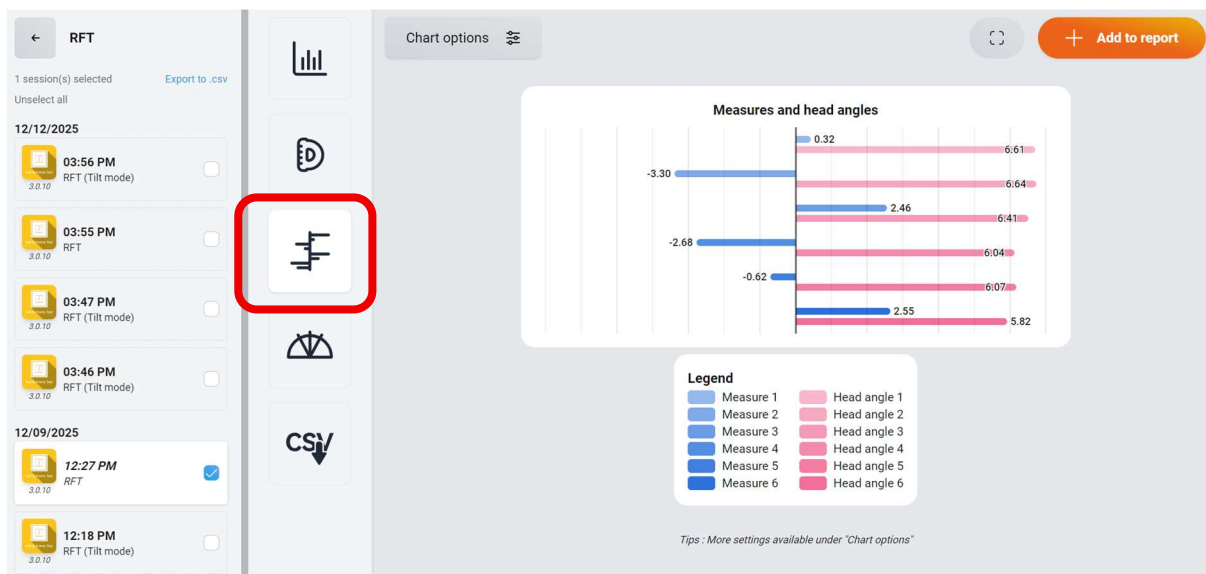
Notes

Name	Result					
Measures	0.32 °	-3.30 °	2.46 °	-2.68 °	-0.62 °	2.55 °
Start angles	10.00 °	-30.00 °	20.00 °	-20.00 °	-10.00 °	30.00 °
Head angles	6.61 °	6.64 °	6.41 °	6.04 °	6.07 °	5.82 °
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:





Previous versions:

