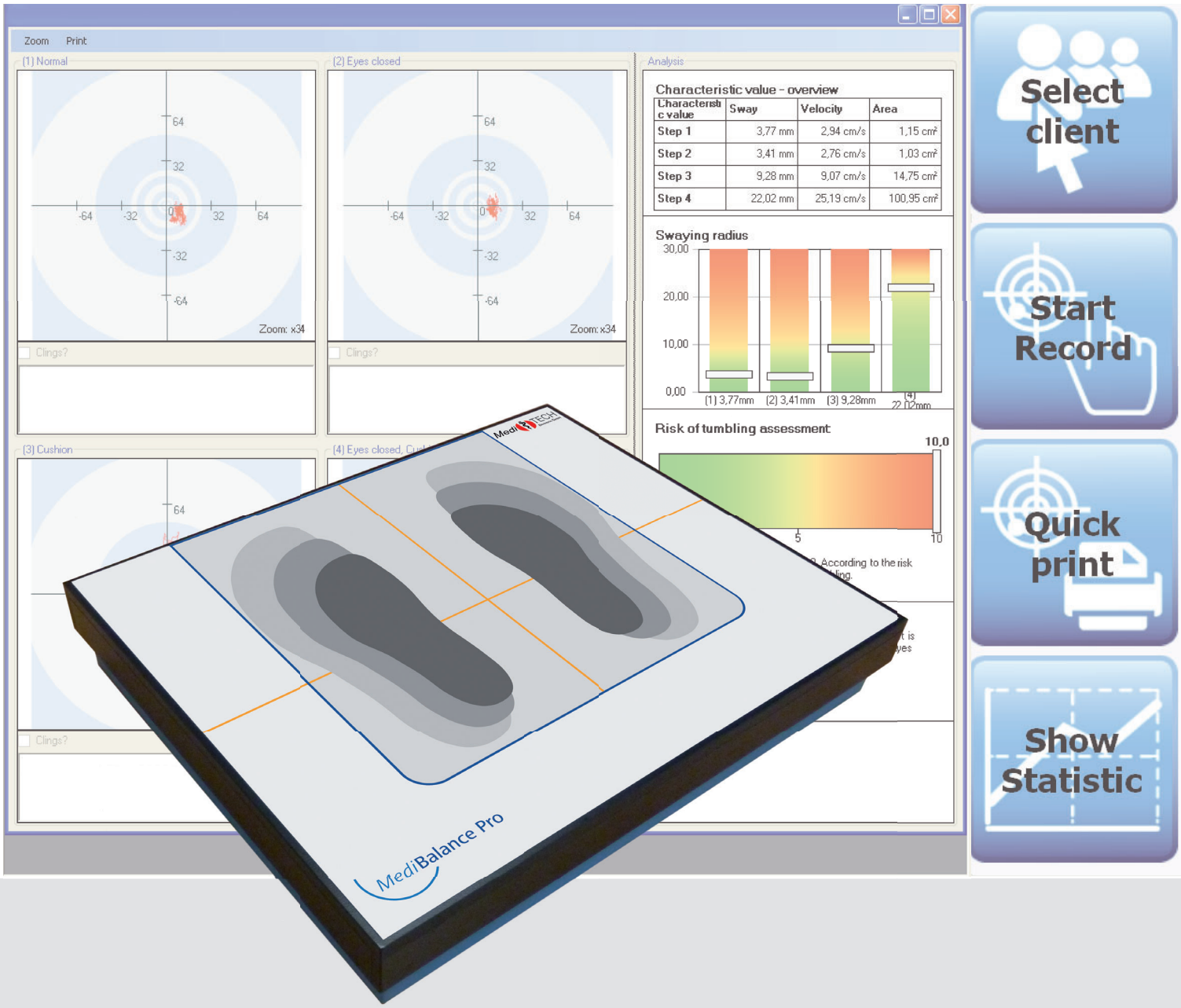


Instructions for use

*Medi*Balance Pro

Table of content

1. Introduction

This manual of the complete *Medi*Balance Pro system was written for otorhinolaryngologists, ophthalmologists, orthopaedists, therapists and other professionals dealing with symptoms of dizziness, equilibrium and coordination, stability in everyday life, motion rehabilitation and motion support.

This manual will inform you about how to install and operate this device and the software: recordings, exercise, analysis.

1.1 What will the user get?

The *Medi*Balance Pro software is receiving measuring data recorded during an *Medi*Balance Pro platform session and displaying these results as graphics and statistics:

- the recording module measures functions like equilibrium or coordination with open and closed eyes, so that they can be objectively evaluated.
- the client can exercise balance, equilibrium, perception and control of the body or various other motor skills in coordination and concentration on six exercise screens - without perceiving at all that he or she is exercising. The client may pursue circles, aim at various changing positions, catch balls with a basket, move as a player at the base line of a tennis court or protect a princess from evil robber barons.

A Client management stores data and results to make them available for analysis.

The therapist supervises recordings and exercises.

1.2 Scope of supply

Product	**Item number** (for repeat orders)
• *MediBalance Pro platform*	2542
• *MediBalance Pro software (on CD-ROM)**	2546-GB
• USB insulator (to connect the *Medi*Balance Pro platform to the computer)	2548
• USB cable connection (USB-a to USB-a)	B 01381
• USB cable connection (USB-a to USB b)	9897
• Instructions	5030
• Transport bag	2545
• Balance cushions (add-on cushion for recording and exercise)	2506
• Supporting rack (folding and adjustable in height to save space) - intended purpose: clients can hold on to it if they feel dizzy or are afraid of Noteing over.	2519

* You may find the most recent versions and patches of the software online at www.download.meditech.de. Please, note that these updates are available to our services and maintenance contract customers.

Attention! The *Medi*Balance Pro and the USB isolator must not be altered without permission by the manufacturer.

Attention! Use only the provided accessory or - in case of damage or loss - the spare parts listed above. Other articles may cause more powerful emission or reduce the immunity of the *Medi*Balance Pro.

Read and understand the instructions before use!

1.3 Necessary and optional accessory

A computer (workstation or notebook) is necessary to use the *Medi*Balance Pro test system. For the least standards which said computer has to meet, please, see the chapter Technology and maintenance.

If your computer and the *Medi*Balance Pro platform are located far from each other, you will need an USB extension cable that is long enough to meet your demands. Please, contact us.

Manufacturer requirements: *Medi*Balance Pro maintenance contract - for specific information, please, see chapter **Technology and maintenance**.

2. Safety notes

The purpose of the *Medi*Balance Pro system is to monitor certain skills of a client, to document them and to exercise them:

- equilibrium, balance and stability
- body perception and control
- vertigo symptomatology
- coordination and concentration

The *Medi*Balance Pro system is suitable for the following clients:

- clients weighing up to 125 kg
- clients who are able to stand without aid (walking frame, walkers etc.)

The *Medi*Balance Pro system is to a limited extent suitable for the following clients:

- The recorded results are affected by certain conditions, like significant motor restlessness, obligatory support on aids or hypocathexis. They cannot be compared to the reference values then, therefore, equilibrium, balance, coordination, dizziness etc. cannot be objectively assessed with regard to the reference values. The exercising functions, of course, can be used to convey motion patterns to clients, to improve concentration and proprioception and to exercise body control and equilibrium.
- Extensive hyperactivity. The results could be impaired by hyperactivity.
- Clients who cannot stand without aid. The results are impaired by support on aids.

The *Medi*Balance Pro is a medical electrical device and, hence, subject to special precautions concerning electromagnetic compatibility. The device may be put into operation only according to the notes given in this manual (page 35 +). Follow all the steps described in this manual to use the *Medi*Balance Pro. Any other, non-compliant use of the device is offending against the regulations and, hence, not permitted. Observe the following safety notes when using the *Medi*Balance Pro system:

⚠ **Attention!** Do not use the device in the rooms containing ignitable mixtures, such as mixtures of anaesthetics and air or oxygen or laughing gas.

⚠ **Attention!** Avoid any contact of the device with ultrasonic baths, flowing water or chemical cleaners, such as diluents, alcohol, etc. The device might be damaged or destroyed.

⚠ **Attention!** The *Medi*Balance Pro and the USB isolator must not be altered without permission by the manufacturer.

⚠ **Attention!** Note that cables of additional devices may not be 'torn out' of the device sockets.

⚠ **Attention!** Do not open the enclosure of the *Medi*Balance Pro platform. You or other persons might be injured. Moreover, the device could be permanently and profoundly damaged. Opening the device will compromise liability and warranty.

⚠ **Attention!** Operate the *Medi*Balance Pro system preferably in dry rooms and on a rather level, swept floor, if possible. Carefully protect the computer and the connections - whether operating or switched off - against moisture and humidity that might cause permanent damage to the devices and the blue cushions. This could entail impairments of the users or other persons.

☞ **Advice:** Portable and mobile radio frequency communication facilities can influence medical electrical devices. Do not use any mobile phones or similar products near the *Medi*Balance Pro.

☞ **Advice:** The *Medi*Balance Pro system may be entered only in socks or stockings. Bare-footed entry is not allowed for reasons of hygiene. Testing and exercising in shoes can falsify the results and, hence, is not advisable. Besides, the sensibility of the feet is affected by shoes.

☞ **Advice:** The life expectance of the MediBalance Pro device is set to be 5 years.

☞ **Advice:** Use only the supplied transport bag for storage or transport of the platform. Protect the platform sufficiently against vibration shocks during transport.

☞ **Advice:** *Medi*TECH does not assume any warranty or liability for actions that offend against these safety notes and the instructions given in this document.

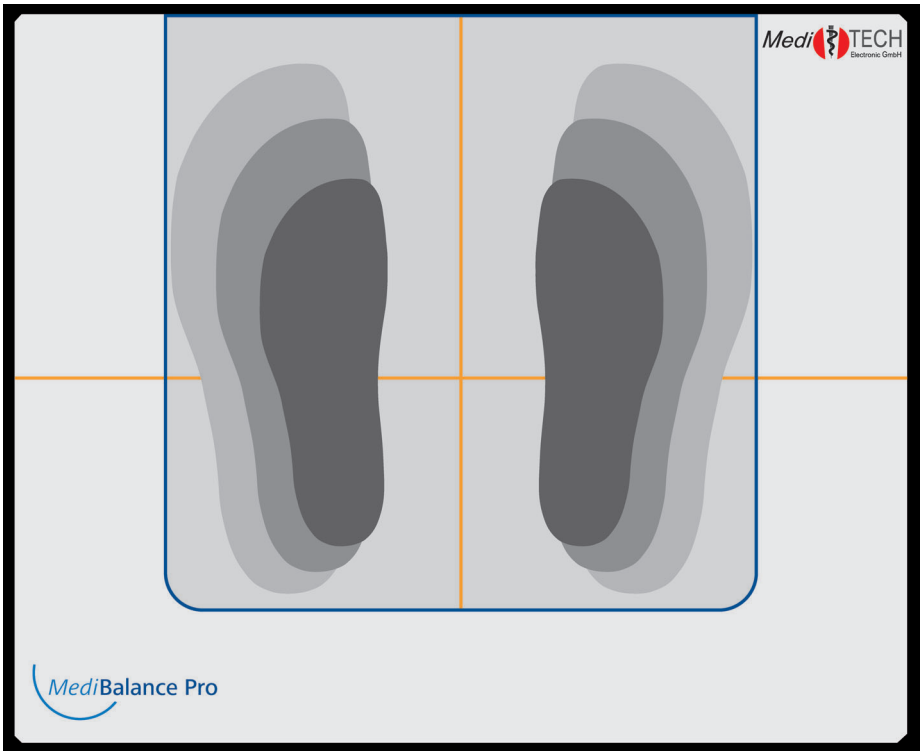
Read and understand these instructions before use!

3. Device view

The following images illustrate the *Medi*Balance Pro platform.

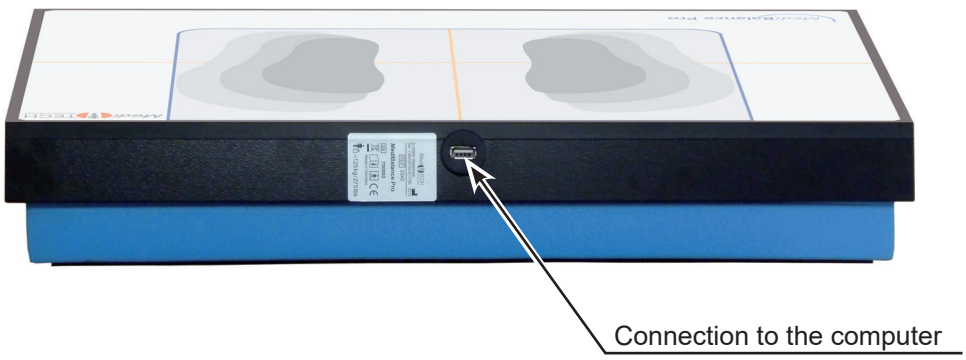
3.1 Front view

The printed feet are intended as a guidance for the client. The intersection of the orange lines is the horizontal and vertical centre of the platform. This is another guidance.



3.2 View of the interface side

The upper edge of the *Medi*Balance Pro platform has an interface socket. Connect to the computer that will save the recordings of the platform by plugging a USB cable into this socket.



4. Installation

This chapter will inform you how to install on your computer the software required for working with the *Medi*-Balance Pro system and how to connect the *Medi*Balance Pro platform to your computer.

4.1 Software installation*

Install the *Medi*Balance Pro software on your computer before first connecting to the platform, so that you can use the *Medi*Balance Pro system.

Important: Before beginning to install, make sure that Microsoft's .NET Frameworks Version 3.5.1 is installed (available free of charge at: http://www.microsoft.com/en-us/download/details.aspx?id=25150. If .NET Frameworks has to be installed, the installation of the *Medi*Balance Pro software may take more than 5 minutes.

To install the *Medi*Balance Pro software, proceed as follows:

1. Boot the computer and put the CD into its CD drive. The set-up wizard of the *Medi*Balance Pro software will start automatically.
2. Follow the steps given by the wizard and confirm each step with the button Proceed:
   - Select the installation language, English.
   - In the licence agreement query, click ‚I accept the agreement'.
   - ... various other steps...
   - The last step is to display the window Exit the *Medi*Balance Pro set-up wizard.
3. Click the button Finish to close the set-up wizard.

If you connect the *Medi*Balance Pro platform to your computer for the first time, the driver set-up wizard might open - that depends on your Windows® version.

- If you are asked whether a connection to Windows Update should be established, choose ‚No, not this time' and proceed.
- If the software is already installed, select ‚Install software automatically'. (If you want to install the driver before the software, select ‚Install software from a list or particular source', insert the CD and, on request, select the ‚INF' directory from the CD.)
- If a note is displayed that the driver has not passed the Windows® logo test, select ‚Continue installation'. The driver is fully operatable and compatible with Windows.

Click the Finish button to close the wizard. The driver is installed.

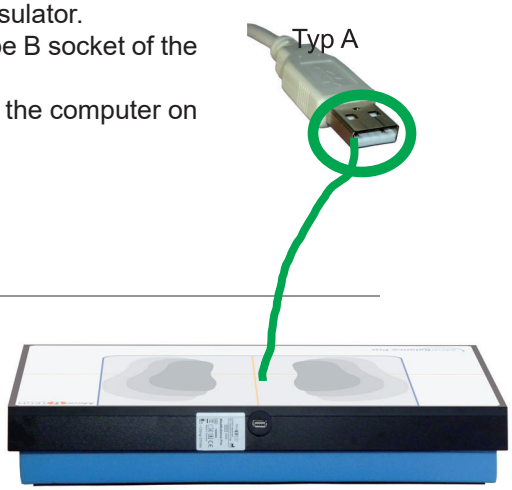
* Find the most current versions and patches of the software online at www.download.meditech.de. Please, note that these updates are available to our service and maintenance contract customers.

4.2 How to connect the *Medi*Balance Pro platform to the computer

The connection of computer and *Medi*Balance Pro platform serves the data transfer from the *Medi*Balance Pro platform to the computer, so that you may record and evaluate with the help of the *Medi*Balance Pro software. Follow the sequence as stated here.

1. Plug one of the USB plugs type A of the cable with two type A plugs into the USB socket at the *Medi*Balance Pro platform (upper edge).
2. Plug the other plug of this cable into the type A socket of the USB insulator.
3. Plug the USB plug type B of the cable with different plugs into the type B socket of the USB insulator.
4. Plug the USB plug type A of this cable into a free USB plug type A at the computer on which the *Medi*Balance Pro software has been installed
5. Start the *Medi*Balance Pro software.

The computer will automatically recognise the *Medi*Balance Pro platform.
Now you can use the system.



Important: The *Medi*Balance Pro is a medical electrical device and, hence, subject to special precautions concerning electromagnetic compatibility. The device may be put into operation only according to the notes given in this manual (page 35 +).

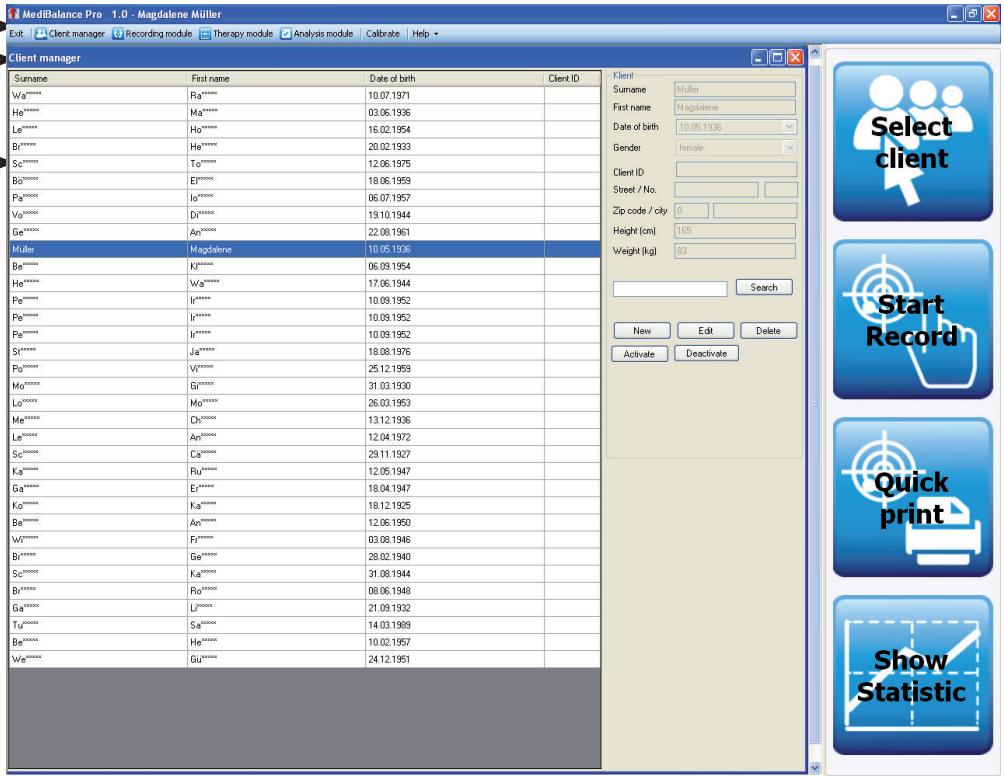
5. How to use the software: recordings, exercise and analysis

This manual is intended to facilitate the usage of the *Medi*Balance Pro system. It will enable you to understand the functions of the system and to use them after a short time

5.1 Software elements

Main bar
Menu bar
(see below)

Menu field
here: client manager



Quickstart bar
(see Chapter:
Recording module)

Menu bar

In der Menüleiste finden Sie alle Elemente, mit denen Sie die *Medi*Balance Pro Software steuern. Die Benutzung dieser Elemente wird auf den nächsten Seiten dieser Anleitung erläutert.

Quick exit from the programme Function not discussed in this manual.	Manage clients' master data: • Enter • Edit • Delete... • See chapter **Client manager**	Acquire standard and advanced recordings See chapter **Recording module**	Perform exercises: Select, change settings (demands and difficulty level) Start and stop See chapter **Therapy module**	Display performed and stored recording and exercising sessions – assess results See chapter **Analysis module**	Find zero point: Necessary whenever the *Medi*Balance Pro platform has been reconnected to the computer	On-line help and information about the programme version

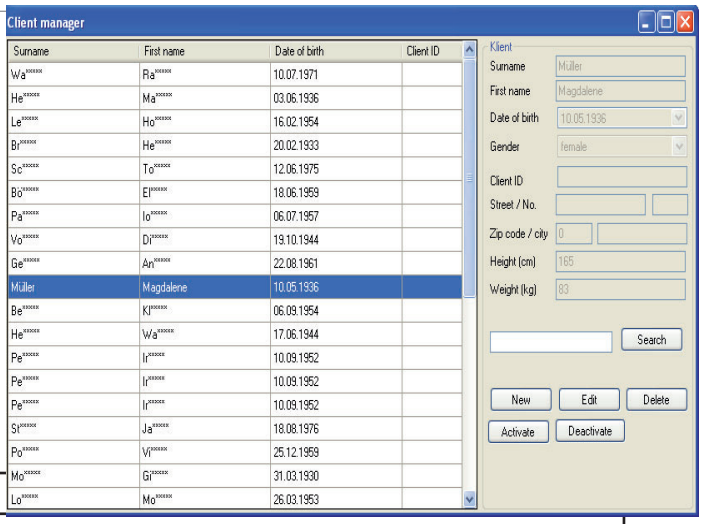
Quick task bar

The quick-task bar facilitates processes of the recording module and, hence, will be thoroughly discussed in the corresponding section.

5.2 Client manager

This chapter will inform you about how to manage clients in the *Medi*Balance Pro software.

Advice: You can also use the Client manager when the *Medi*Balance Pro platform is not connected to the computer. You can enter client data in advance, for example - when the appointment for a recording was already scheduled.



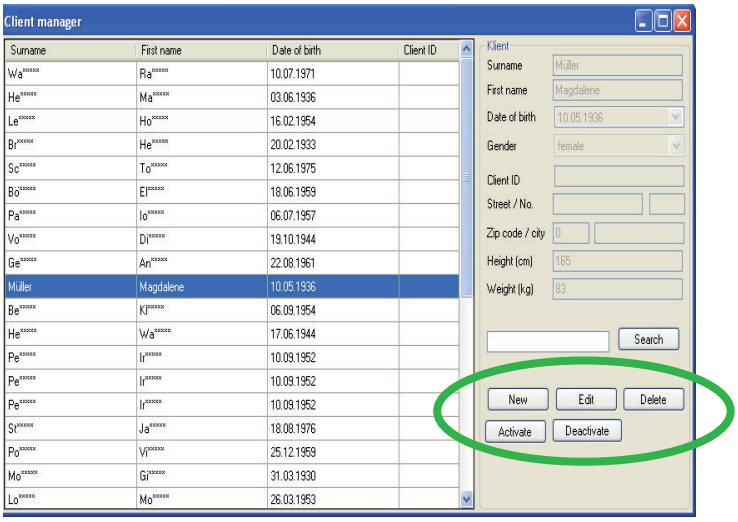
1. Open the Client manager:
   - Click the **Select client** button in the quick-task bar.
   - Click the **Client manager** button in the menu bar.

   The **Client manager** window opens. If clients have already been entered in the database, they are shown now. For purposes of anonymity, the surnames of any clients who are not clicked on are abbreviated.

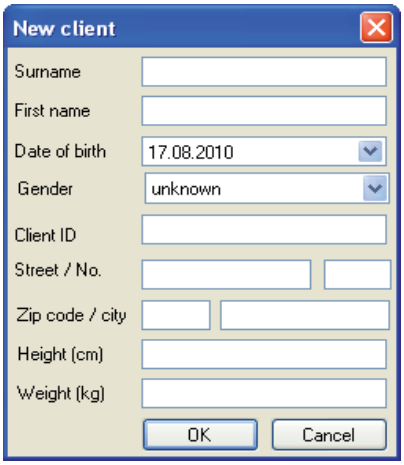
The Client manager provides the following options:

Option	Meaning
Search	Look for entered clients
New	Enter new clients
Edit	Edit entered and saved data (e.g., update of surname or address, size or weight …)
Delete	Delete entered and stored clients (irrevocable deletion of client data - including all recordings and exercise sessions)
Enable	Select a client from the database who will perform a test or an exercise (other option: double click the surname)
Disable	Unselect if you want to carry out a recording or an exercise without assigning data to a client (e.g., for a demo)

Click any button of the Client manager window to carry out the desired step:



Enter new client



1. Click the New button. The New client window opens.
2. Now you can enter the respective client data at your computer keyboard. Switch from one entry field to another by:
   - using the tab button of your keyboard to proceed to the next field (recommended).
   - clicking the next field.
3. Enter data:
   - **Surname** (any text)
   - **First name** (any text)
   - **Date of birth** - here you have the following options:
     - Click the data (day, month, year) one after another and enter at the keyboard.
     - Another option is to click the tick next to the date. A calendar sheet opens which allows you to click the date of birth. If the right month of the right year is not shown, click on the left or right arrows to change the month.
   - **Sex** (select male or female with the tick next to the entry. Another option is to type m for male or f for female on your keyboard)
   - **Client ID** (e.g., the keyword that the client management of your practise is using for this client)
   - **Street no.** (any text - use keyboard)
   - **Postal code/town** (any text - use keyboard)
   - **Size** (cm) *
   - **Weight** (kg) *

Important: The *Medi*Balance Pro platform may be loaded with not more than 125 kg (maximum load). Recordings and exercise sessions of heavier clients are not allowed for safety reasons. Damages from too high mass load are not covered by the liability or warranty of the manufacturer.

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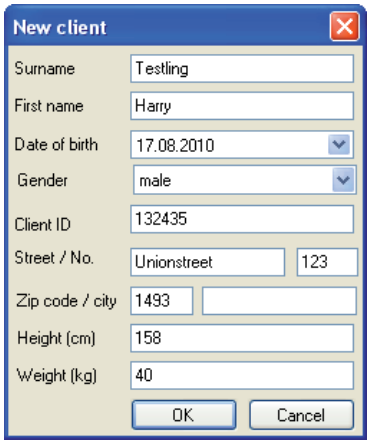
* This information is important to compare recorded values to the reference data.

4. Click OK after validating the data entered. Else, enter any necessary corrections, then click OK. The data are saved in the Client manager. They are now available for recordings, exercises and analyses.
   Click Cancel if you do not want to save the data.

Edit client data

(e.g., update of surname or address, size or weight …)

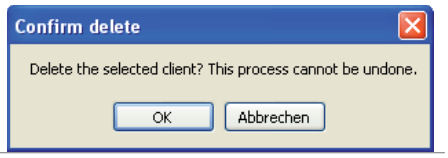


1. In the **Client manager**, click any client whose data you would like to edit.
2. Click on the **Edit** button. The **Edit client data** window opens.
3. Click on the field containing the entry of the client you would like to edit.
4. Update the entry at your computer keyboard.
5. If you want to update further entries, click the next desired field and edit.
6. If you have made all necessary or desired updates, click the **OK** button. The window closes and you have saved the updates. .

Client manager

Delete client data

1. In the Client manager, click any client whose data you would like to delete definitely.
2. Click the Delete button. The Confirm deletion window opens. This is a safety query to verify whether you really want to delete those data:
   - Click OK if you want to delete the data definitely.
   - Click Cancel if you want to cancel and keep the data.



Note: You can delete several client datasets at once. Click any client entry whose data you would like to delete.

- Press the **Ctrl** key at your keyboard, keep it pressed and click another client to select a second, a third or more clients.
- Press the **Shift** key and click another client.
  All clients listed by the Client manager between the two selected clients are selected as well.

Click the **Delete** button**.**
Use this option very carefully, because you will delete the data definitely.

Enable clients/working with a client

1. Click any client in the Client manager to whom you want to assign the next recordings and exercise data.
2. Click the Enable button.
   Another option is to click the client‘s surname twice to enable him or her.

   Now the selected client is enabled. You can tell this from the title bar of the software. In the present case, the client Tobias Musterklient is enabled. All test and exercise records will now be associated to him until another client is enabled.

Select no clients/MediBalance Pro demo mode

You can use this option during the learning phase or for demo purposes, e.g., to explain the functions to a client or during an open house day when the results should not be saved.

If you start any recordings and exercises, the fact will be pointed out to you another time.

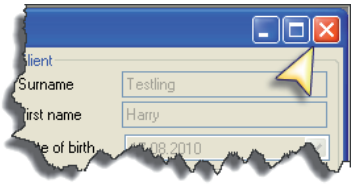
1. Click the **Disable** button. Now no client is enabled. You can tell this from the title bar of the software.

How to search a client among many clients

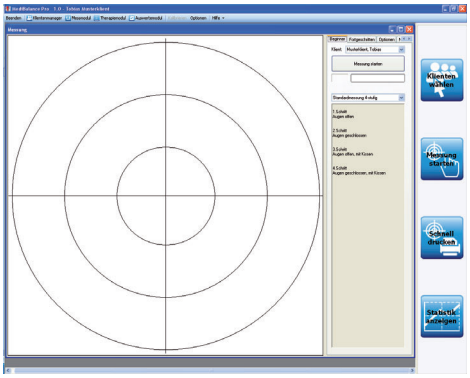
1. Using the keyboard, enter in the search field the surname, first name or client ID of the client whose master data you would like to call or enable.
2. Click Search. If the client is already entered into the database, his or her data will be displayed against blue background fields. Now you can look at the data and edit, delete or enable them.

Exit the Client manager

Click on the red x in the upper corner of the Client manager to exit.



5.3 Recording module



In this module you may carry out the recordings.

Advice: To use this module it is necessary that the *Medi*-Balance Pro platform is connected to the computer.

5.3.1 Measuring arrangement of the components

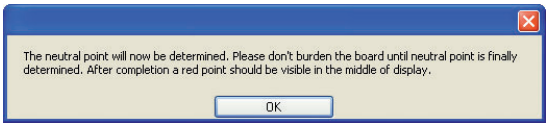
- When you arrange the computer relative to the *Medi*Balance Pro platform, please, make sure that the client cannot see the display during any recordings. The recordings should represent the natural motions and their control. If the client can see the record, he or she will consciously or unconsciously try to perform specific balance motions, to keep the ‚measuring point' in the centre of the measuring field. But this is neither intended nor welcome during recording, because then a comparison with the reference data will not yield a plausible result.
- When your clients are very prone to dizziness or falling, set up the supporting rack around the platform in such a way that the client can step upon the platform from behind. Adapt the height of the supporting rack to the client's body size. Note that two of the recording steps will be performed with an additionally placed cushion. Set the height, hence, rather a little bit too high, because the probability that the client will need the supporting rack is higher during steps 3 and 4 (with cushion).
- Keep the cushion close to you, so that you have it ready after step 2 and can place it quickly on the *Medi*Balance Pro platform.
- You may switch on the computer sound output or connect loudspeakers, if you prefer. Then the client will receive an acoustic note when a recording step has been completed.
- Attach a fixation dot within the view of the client which the clients can focus on.

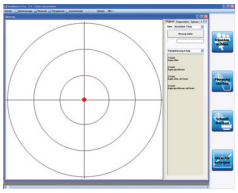
5.3.2 How to prepare the recording: calibration

Recalibrate the recording unit (computer software and *Medi*Balance Pro platform connection) before carrying out the first recording after (re)connecting the *Medi*Balance Pro platform or rebooting the computer. The sensors report the zero point of the platform to the software.

This step is necessary because the highly sensitive sensors registering the client's motions respond to changes of position.

1. Click the Calibrate button in the menu bar.
   The calibration will take only a few seconds.
   The *Medi*Balance Pro platform may not be loaded during this time, so that the zero point can be found. A window will point that out to you.
   The calibration is finished when the red dot is in the middle of the crossline.





5.3.3 Standard scripts with the quick task bar

In the quick task bar you will find all the elements that you need for executing a Standard script (4 step protocol). You may use either these elements or those provided in the Recording window. If you may click any elements of the quick task bar, too, this option will be stated.

	If you click the Select client button, the Client manager opens and you may select a client for recording.
	Click this button to start recording. The standard script consists of four individual steps. In the following chapter, How to record, you may read more about the sequence of recordings, advise on how to instruct the client and about the steps that you, as the therapist, will have to carry out during recording.
	Click on this button to print out the results of the recording so that you may give them to the client or add to the client file.
	Click on this button to display the analysis of the previously finished recording. Please, find advise on analysis at the end of this chapter, End of recording.

1. Select a client for recording. Click in the Beginner tab of the Recording window the tick behind **Client** and select the desired client from the list. If the client has not yet been saved in the **Client manager** yet, enter him or her according to the chapter Client manager.

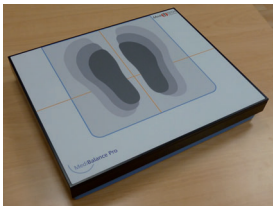
⚠ **Attention!** For each measurement, and each training: It must be prevented that the client can collapse or fall over. Make sure that he or she can access the supporting rack and can be caught by a specialist. This particularly applies to measurements and training that require an inclination of the body.

5.3.4 How to record - standard script (4 step protocol)

The standard script consists of four steps which are performed in a sequence preset by the software. All the four steps will be successively carried out, unless you cancel a recording step on purpose. How to cancel a recording step will be described at the end of this chapter.

Step sequence during recording:

Step	Eyes	Cushions
1	Eyes open	Without cushion
2	Eyes closed	Without cushion
3	Eyes open	With cushion
4	Eyes closed	With cushion



In the grey boxes of the individual steps you will find advice to help instruct the client properly. After a short time you will be experienced in instructing, and you will no longer need this advice. Of course you can change the texts to match situation and age.

Ask the client to put off the shoes and to position him- or herself on the *Medi*Balance Pro platform.

Tell him or her to correct the position until the red dot is centred in the crossline.

We will test your equilibrium now, and your ability to stand quiet. The recording will take about five minutes. It will tell us about your sway response and how all the components are working together that are contributing to your equilibrium. That will allow us to draw conclusions. The recording will consist of four steps. I will tell you precisely each time what you will have to do.

For each step, stand very quiet, easy and relaxed on the platform. Each test step will already be finished after 30 seconds.

If you should need a short break after any step, just tell me, please. We are not doing a stress test. This is a balance and coordination test.

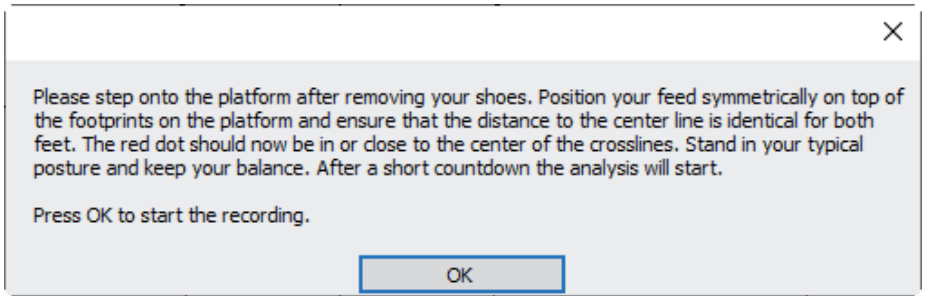
Please, take off your shoes now. We have to do that to get very precise values that we can properly evaluate.

Now step on the platform, right in the middle, please, and centre your weight very steadily on your feet. I can see a dot on this screen. It tells me whether you have centred your weight right in the middle.

WHEN NEEDED: Please, shift your weight a bit more to the left/right/forward/backward. Or: put your left/right foot/feet a little more to the left/right/forward/backward.

Recording 1

1. Click Start recording. A window reminds you to perform the steps just carried out.

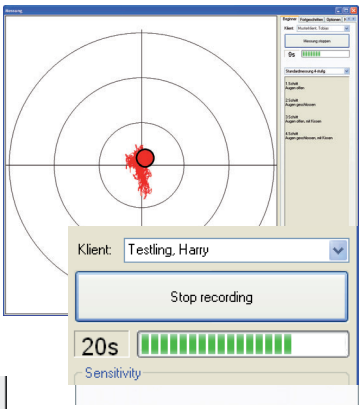


In this first step, you will stand on the platform and look straight ahead, please. When I say, ‚Now‘, the recording will begin. When I say, ‚Finished‘, the recording is complete. Nothing can happen to you. If you should start to feel dizzy, grab the clutches of the supporting rack.

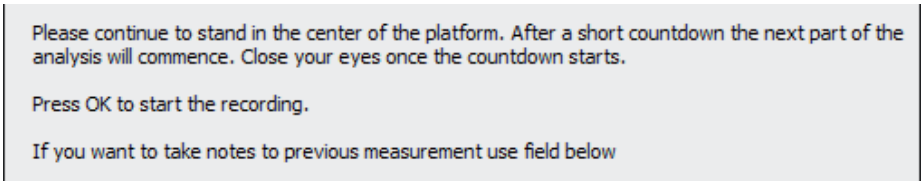
Do you have any further questions about the recording?

2. When you have answered any further questions, confirm the reminder with **OK**. If that was agreed before, say **Now**.
   A countdown from 5 to 1 announces the beginning of recording. The recording begins. The red dot moves synchronous with the client‘s motions.
3. Your task during the next 30 seconds will be to observe the running recording and to make sure that the client does not sway too much or even tip over. But correct him or her only when inevitable, if the lines are shifting too much, so that the result of the recording will not be impaired.

   The countdown and the receding green bar on the display will tell you how much time is left till the end of the recording.



   If the time has run out, a window will appear:



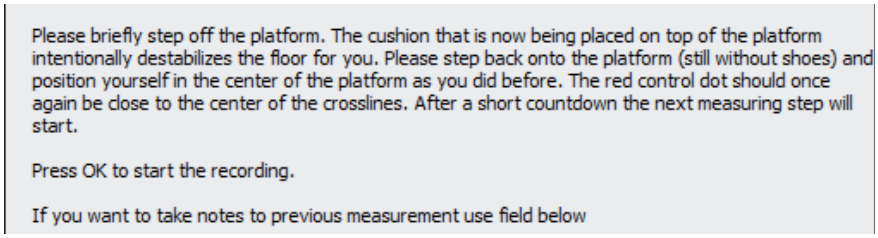
4. Tell the client in the agreed manner that the first step is completed.

Recording module

Recording 2

> In the second step you may just go on stand as relaxed and calm as before. Just close your eyes during recording, please. Nothing can happen to you. If you feel dizzy or think you might tip over, you can support yourself at the rack and hold tight to it. As before, when I say, ‚Now', the recording begins. When I say, ‚Finished', the recording is finished.

1. Confirm the note on the screen with OK. The countdown begins. Say Now. The recording begins and ends automatically 30 seconds later. The following window will appear.

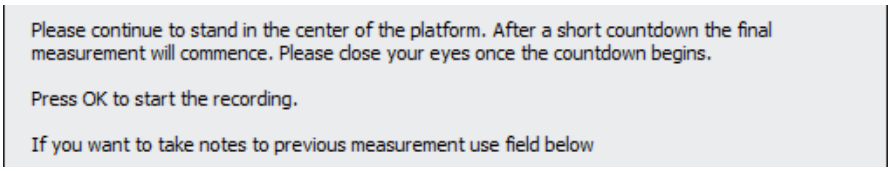


Recording 3

1. Ask the client to step down from the platform. Place the add-on cushion on the platform and ask the client to step up on the platform again.

> Please, step down from the platform. We will modify the conditions a little, but your task will be the same. I will put a cushion on the platform and you will step up on it. You will find that your stepping ground will be a little less stable than before. That's perfectly alright.
>
> In this third step you will stand on the platform as you did in the first step. Just look straight ahead. When I say, ‚Now', the recording begins. When I say, ‚Finished', the recording is completed. Nothing can happen to you. If you should start to feel dizzy, grab the clutches of the supporting rack.

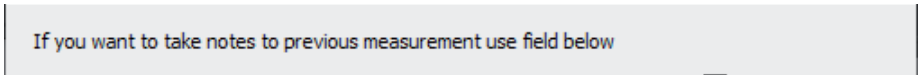
2. Confirm the note with OK. Tell the client when the countdown is running. At the end of the recording, the following window will be shown. Tell that to the client as agreed.



Recording 4

> In the fourth step, finally, you may stay as relaxed and calm as before. You may guess it, I presume: Close your eyes again before the recording starts and keep them closed. Nothing can happen to you. If you should feel dizzy or think you might tip over, you can support yourself at the rack and hold tight to it. As before, when I say, ‚Now', the recording begins. When I say, ‚Finished', the recording is completed.

1. Confirm the note with OK and tell the client when the countdown is running. At the end of the recording, the following window will be shown:

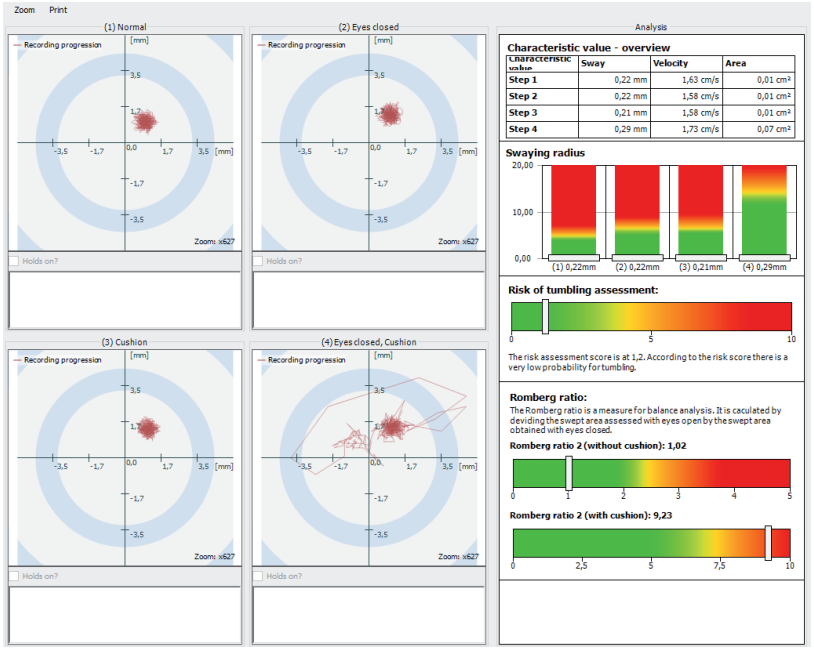


5.3.5 End of recording and analysis

The recording session is now completed.

> That‘s the end of the recording. Excellent. You have made it.

1. Click the **Show statistics** button. The overview of the four recordings and an analysis will appear. You may interpret them as follows:



Left part: The lines in the four crosslines represent the motions during recording. The greater the area, the less stable the client was standing, and the more balance motions he or she had to carry out to stand ‚quiet'. The heading indicates which image corresponds to which recording step.

In the **right part** of the display you will find the analysis of the recording:

- The **Characteristic value** - overview table gives statistics on sway, velocity of the sway and the area in which the client has moved – distinguished by recording step. The lower the values, the less the sways and motions were noticable.
- The **Swaying radius** image depicts the characteristic values of the sway. The bars indicate whether the sways were normal, borderline or conspicuous in comparison to other persons of similar age, size and weight:

	Evaluation	Conclusion
	Conspicuous	Exercise is imminent.
	Borderline	Exercise should be considered.
	Normal	Exercise makes sense to maintain the skills. However, it is not obligatory.

- The assessment of the fall risk informs by a similar colour code about the probability of falling. High values or a bar in the yellow, orange or even red range will recommend exercise. Further prophylactic measures against falling should be considered or initiated.
- The Romberg quotient designates the quotient of the area recorded for closed eyes and the area recorded for open eyes. It backs up the swaying analyses and the assessment of the fall risk with clues on the values recorded with open eyes compared to those recorded with closed eyes. The higher the values, the more imminently exercise and further examinations are indicated, esp. of the visual supporting function.

5.3.6 Abnormal termination of a recording step

When you have started a recording step, it will automatically end 30 seconds later. You should continue recording until this automatic end, to acquire plausible measuring results.

Nevertheless, circumstances may occur which require an interruption or an abnormal termination, to avoid implausible analysis results that might lead to wrong conclusions:

- Coughing or any other physical impairment of the client (a cramp in the leg, for example). Powerful motions are recorded then that would not appear at rest.
- Profound detraction by people entering the room, phone, or other. This can impact concentration and, hence, the client's motions for a longer period, so that the recordings are not plausible any more.

In these cases you should terminate the recording step or the whole recording and start again when the *interference* has been removed.

How to terminate and restart a step

1. Click ‚Stop recording' during the recording step to terminate the currently active test step. The data recorded so far will not be saved.
2. Click ‚Start recording' again to restart the incomplete recording step.

How to terminate the entire recording

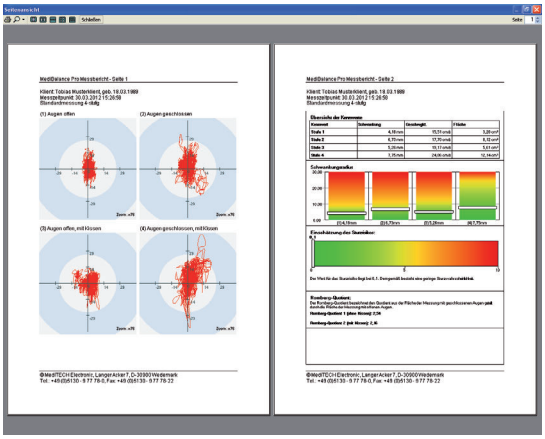
1. Click the red cross in the upper right corner of the Recording module window to terminate the whole recording. No results will be saved.

Important: Use the termination option carefully and only as an exception. Mention it to the client only when needed.

5.3.7 Print results

If you want to add the results of the recording to the client files or if your client asks for a printout, you may preview and print the graphic report discussed in the chapter **End of recording and analysis**.

1. Click the Quick print button.
   The Preview window appears.
2. Click the Printer icon. The computer will print out the pages on the default printer, provided that any is connected, switched on and filled with sufficient paper. You will need two sheets of paper for a printout.
3. Close the Preview window as soon as the printing was successfully concluded by clicking the red x in the upper right corner.



5.3.8 Recording variations

You can carry out particular tests in the Pro tab. You can adapt them to the individual client with regard to

Setting	Value range	Application area	Specific features
Time before start	1 to 10 seconds (The countdown is different from the standard recording.)	Short term, if • the client is very impatient. • the time which the client needs to improve the balance reaction shall be recorded and displayed as well. Long term (with short recording time), if • you want to record only a short period within an extended time span. • the client has trouble with the balance reaction and needs much time to improve, This time, however, shall not be recorded and displayed.	
Duration	15 to 300 seconds (= 6 minutes) (The countdown is different from the standard recording.)	*Shorten if you want to examine the immediate effect of a preceding load on the balance (controlled balance reactions).* *At least 30 seconds if you want to record the transition from controlled to automated balance reactions.* *Extend the duration if you want to examine and display effects on the stress resistance of the client's balance reactions.*	
Recording type: eyes closed	On/off (at least 30 seconds)	As a specific test when visually conditioned problems are present, to check whether the exercise was successful.	Ask the client to close the eyes.
Recording type: cushions	On/off	A special measure if the results of the recording with cushion were very conspicuous.	Put the cushion on the platform.
Recording type: platform turned	On/off		Recalibrate before recording.

You can combine the settings at will

View during a recording

You can change the monitoring display in the Options tab.

Background:

Here you can change the background on which the recording is displayed.

Here you may select from (see margin)

- No background
- Cross
- Crossline

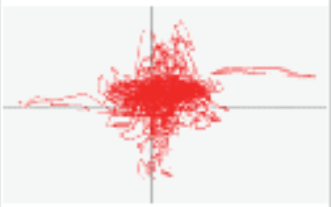
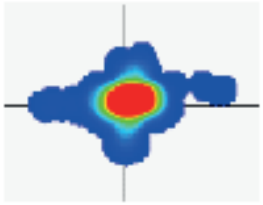
Click on the desired background display.

Option	View	Example
No		
Cross		
Crossline		

Recording module

Display:

Here you can change the display of the recording.

Option	Example	Specific feature
Line graph		Display the whole course of the recording. Certain sways will be much better visible.
Density		Clearer optical display of the motion density. Increasing repetition of certain positions is indicated by the display changing from blue (= position was briefly touched – most often when moving –) via turquoise, green, yellow to red (= position kept very long/long term).
No visual feed-back		If the installation does not allow preventing the client from looking at the monitor or if you do not want to be influenced by the display of results.

In the opening field, click on the desired display type.

The line graph or the density display shall be larger or smaller depicted:

Values	Meaning	Recommendation for application
Low values (1 – 10)	Wide area, superficial display	Very restlessly or unsteadily standing clients who may need the whole measuring area for the display.
Medium values (16 – 20)	Medium-sized area, normal display.	
High values (28 – 32)	Small area, very precise display.	Expectably very quietly standing clients whose minute motions shall be displayed as well.

In the opening field, click on the desired zoom factor.

Notes on the accomplished recording

In the Notes tab you can record any notes, conspicuities, specific features or other remarks on a specific recording.

Click the empty field and enter any text at the keyboard. You do not need to save the input.

5.4 Exercise module

This chapter will inform you how to select available exercises, how to use them, how to instruct the client and how to customise them to his or her needs.

The exercises require that the client can see the computer screen head-on, so that he or she can accomplish the tasks by purposefully shifting the weight. Please, make sure that the display is set up high enough (at about chest level).

Note: If you have the means to project the screen display on a clear surface with a beamer, the exercise will be very pleasant for the client.

You may:

- set criteria for terminating an exercise (e.g., achieved score or end of a defined period)
- set the difficulty level
- control the exercise

to structure the exercise more diverse and more demanding during any new appointment.

5.4.1 General execution of an exercise

The general execution of an exercise follows this structure:

Step	**Place of setting**
1. Select a client	Module: Client manager
2. Select an exercise	Tab: Exercise
– and if desired or necessary: A. Set Conditions for terminating the exercise B. Set Difficulty level C. Customise options	Tab: Exercise settings
3. Instruct the client about the exercise	See the respective exercise: Client instructions
4. Click Start	Tab: Exercise
5. Wait until the condition for terminating the exercise is achieved or manually terminate	Tab: Exercise or ESC key

5.4.2 Conditions for terminating the exercise

Here you can define when an exercise should be terminated:

Condition	**Requirement to terminate the exercise**	**Measurable/plausible result** compare to other clients/former results, too
*None** *= no entry for Score/period*	The exercise is terminated either by the Stop button on the display or the ESC key at the keyboard. It is not automatically terminated.	General evaluation of the results using the values.
Score	Set score has been achieved (1 to 100 points).	Time required to achieve the score.
Period	Set period has expired (any period).	Score achieved within the period.
Score and period	The first condition met will terminate the exercise.	Can the client achieve the set score within the set time?

Exercise module – in general

5.4.3 Difficulty level

You may select any of three manufacturer‘s settings or a ‚user-defined‘ difficulty level.

Definition	Suitable for the following clients
Easy	Clients who exercise for the first time and clients who had trouble with this exercise last time.
Medium	Clients who have successfully accomplished the EASY level.
Hard	Clients who have successfully accomplished the MEDIUM level.
User-defined *	Clients for whom the transition from EASY to MEDIUM or MEDIUM to HARD ... or who need to advance beyond HARD.

* In this selection you can select any available option. If you modify any option, the ‚Difficulty level‘ selection changes to user-defined. Please, read about the consequences of specific settings in the description of the respective exercise.

Note: You can make the tasks much harder when you have the exercises performed on the add-on cushion. This is recommended for clients who are already experienced in the exercises and the individual difficulty levels. In addition, you can raise the difficulty level by appointing additional tasks, for example, eye motions, eye tracking motions, ball game, recumbent eight, lateral exercise etc.

1. Click on the Exercises tab to select from the exercises.
2. Click on the Exercise settings tab if you want to modify the parameters of the selected exercise.

5.4.4 Exercises

This chapter will describe the individual exercises and specify settings you may modify. Again, you will be provided advise on how to instruct the client.

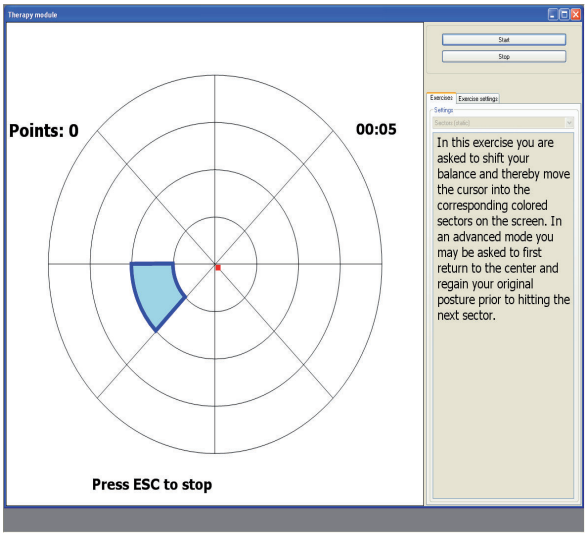
The following exercises are available:

Name	Category	Meaning
Target area	Static	Static means that the client has to aim at an immobile object. If he or she has hit it, it will change position and the client has to aim at the new position.
Target circles	Static	
Follow circles	Dynamic	Dynamic means that the client has to react to constantly changing situations or aim at moving objects.
Catch balls	Dynamic	
Tennis	Dynamic	
Save the princess	Dynamic	

1. Select the desired exercise from the Exercises tab.

On the following pages you will get descriptions of the specific exercises.

Exercise: Target area



You have selected the Target area exercise for the currently enabled client.

What the client has to do:

The client controls a red cursor on the display by shifting the mass centre of his or her body. He or she has to try and move the cursor into the coloured area. Once this is achieved, the area will change position and the client has to try again to aim at the now coloured area.

The areas grow with their distance from the centre, however, it is harder to aim at them.

Purpose of the exercise: This exercise helps to improve balance reactions by shifting the mass centre into any direction of motion. Directed motions with little demand for targeted motion are addressed.

Accessible exercise settings:

In the user-defined setting you can change the following options:

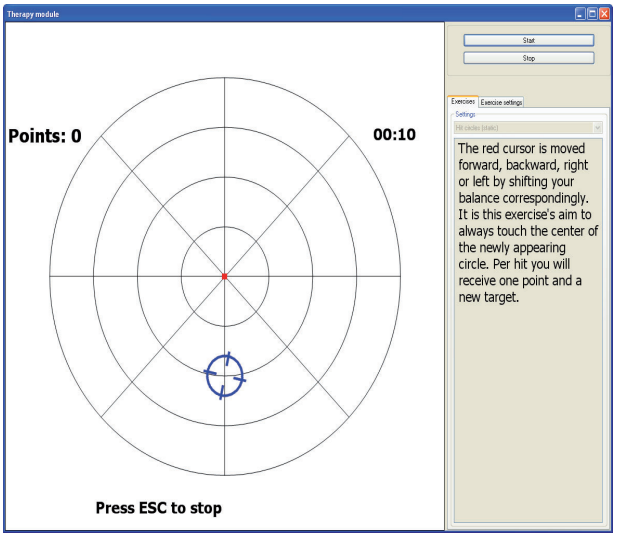
Option	Option od choice	Effect
Centre balance	Tick = on No tick = off	If on: the client has to move the cursor again into the middle of the exercise area once a target has been met, and so, he or she has to align him- or herself again. This is an additional difficulty level.
Circle size	1 to 4 (only applicable if the Balance centre option is ticked)	The smaller the number, the smaller is the centre circle and the higher is the challenge to the client.
Rings	Inner, middle, outer ring – the target areas will appear in these rings	It is harder to aim at areas in the outer ring than in the middle ring. These again are more difficult to target than areas in the inner ring.

Client instruction - sample text

> In this game you will control a small red cursor and score by moving it into the coloured area. The area will change position as soon as you have touched it with the cursor. Then try to move the cursor to the new position of the area.
>
> Purpose: to win the game, you have to achieve a certain score within a given time.

Exercise: Target circles

You have selected the Target circles exercise for the currently enabled client.



What the client has to do:

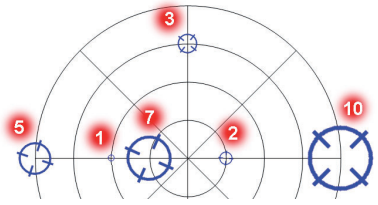
The client controls a small red cursor that is supposed to hit a static circle. As soon as the circle was touched, it will change position and the client will try to aim at its new position.

The smaller the circle, the more challenging is this exercise.

Purpose of the exercise: This exercise helps to improve purposeful motions in the horizontal and vertical plane. The difference to Target areas is that here the targets are much smaller (adjustable) and demand different tasks from the brain by their rotation.

Accessible exercise settings:

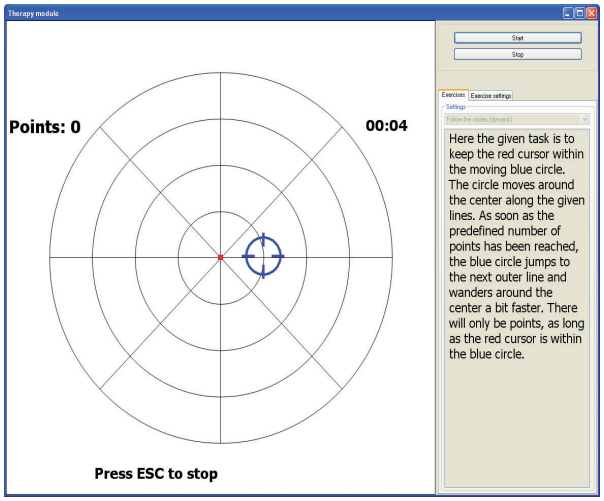
In the user-defined setting you can change the following options:

Option	Option od choice	Effect
Circle size (target circle)	1 to 10 How wide is the circle that shall be targeted?	The smaller the target circle, the more challenging the task. 
Ringe	Ring 1 (inner ring), ring 2, ring 3, ring 4 (outer ring): On which rings (= lines) shall the target circle be drawn?	The more the target circle is removed from the centre, the more challenging is the task.
Zieldrehrichtung	• Clockwise • Counter-clockwise • No rotation	The task is not different when the direction of rotation changes. The difficulty level changes by the mental challenge to the client: clockwise rotation demands other capacities than counter-clockwise rotation.

Client instruction - sample text

> You will have to move the red cursor which you control into the rotating crossline. When you achieved that, you will score one point, and the crossline will change position.
>
> Purpose: to win the game, you have to achieve a certain score within a given time.

Exercise: Follow circles



You have selected the Follow circles exercise for the currently enabled client.

What the client has to do:

The client controls the small red cursor with specific motions and shifts of his or her mass centre in such a way that the cursor will stay as long as possible in the crossline. As long as the cursor moves with the crossline, the crossline rotates and the client scores. The crossline moves along the ring lines, and once a certain score has been achieved, it jumps to other rings, changing its speed. The client should follow the motions.

Purpose of the exercise: This exercise helps to improve specific quiet, smooth motions in the horizontal and the vertical plane. .

Accessible exercise settings:

In the user-defined setting you can change the following options:

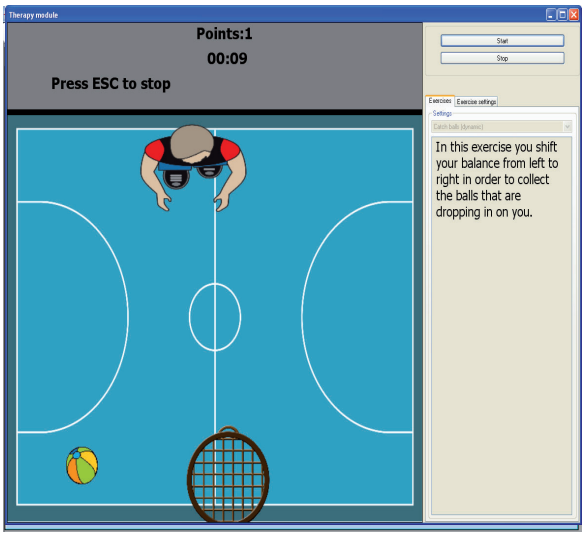
Option	Option of Choice	Effect
Direction of motion	• Clockwise • Counter-clockwise • Alternating	If the direction keeps alternating, the task is more challenging.
Speed	1 to 10	The faster the circle is running along the ring, the more challenging is the task. Clients with cerebellum symptoms will find the slow tasks more difficult, because they are having trouble with slowing down their motion.
Rings	Ring 1 (inner ring), ring 2, ring 3, ring 4 (outer ring): On which rings (= lines) shall the target circle be drawn?	The more the target circle is removed from the centre, the more challenging is the task.
Target rotation	• Clockwise • Counter-clockwise • No rotation	The task is not different when the direction of rotation changes. The difficulty level changes by the mental challenge to the client: clockwise rotation demands other capacities than counter-clockwise rotation.
Target switch position	*By time or score* *values of 1 to 10,000*	The less steady the target circle, the more challenging is the task.

Client instruction - sample text

> In this game you will have to follow the moving crossline with the cursor. Move your red dot into the crossline and keep it there. When the crossline starts to rotate, you have reached the right position of the cursor.
>
> Purpose: the purpose of the game is to attain a given score within a certain time. You will achieve it by keeping the red dot within the crossline as long as possible.

Exercise module – Exercise: Catch balls

Exercise: Catch balls



You have selected the Catch balls exercise for the currently enabled client.

What the client has to do:

The basketball player at the upper edge of the field is throwing balls from various positions. The client should catch them at the lower edge of the field by controlling the basket with specific left/right coordinating movements and lateral shifts of the body mass centre. Every ball caught will score.

Purpose of the exercise: This exercise helps to improve specific, quick motions in the horizontal level, quick reactions to adapt the balance to lateral changes of the body mass centre and good reactivity.

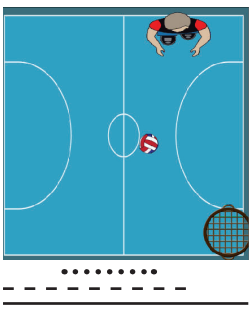
Accessible exercise settings:

In the user-defined setting you can change the following options:

Option	Option of choice	Effect
Ball speed (throw speed)	1 (= slow) to 10 (= fast)	The faster the balls are thrown, the more challenging is the task with regard to the speed of reaction.
Ball frequency (number of balls thrown at the same time)	1 to 10	The more balls are thrown at the same time, the more challenging is the task with regard to the speed of reaction and eye-hand coordination.
Left half (Left border of the field in which the balls are thrown	Slider from 0 (wide) to 30 (narrow)	For specific exercise of weight shifting in a defined zone: if the balls are thrown farther to the left, the task is more challenging with regard to the amplitude of motion.
Right half (Right border of the field in which the balls are thrown)	Slider from 0 (wide) to 30 (narrow)	For specific exercise of weight shifting in a defined zone: if the balls are thrown farther to the right, the task is more challenging.

You can set with the left half/right half settings whether the balls are thrown across the full width of the display or whether you want to delimit the zone on the left or on the right. More exercise in a certain target zone can be indicated for clients who are showing unilateral conspicuities

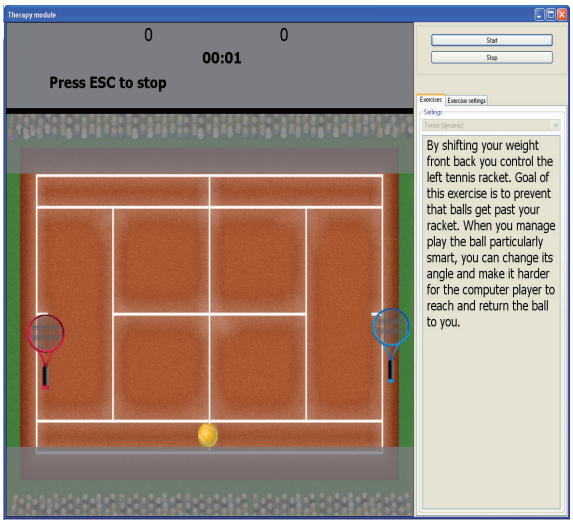
Throwing zone with 0 left/0 right setting ————————
Throwing zone with 0 left/15 right setting – – – – – – –
Throwing zone with 15 left/30 right setting ....



Client instruction - sample text

> In this game you will move the basket. You will have to catch the balls by moving on the platform to shift the basket at the lower edge of the field to the right or to the left. The balls are always thrown from top to bottom and they always start at the player‘s position.
>
> Purpose: to win the game, you have to achieve a certain score in a given time.

Exercise: Tennis



You have selected the Tennis exercise for the currently enabled client.

What the client has to do:

The client controls the red tennis racquet on the left side of the court and tries with specific forward/backward movements to dodge the balls that are flying up from the right. The client scores by hitting the ball. The blue racquet is controlled by the computer and returns the dodged balls.

Forward or backward areas can be exercised by limiting the target zone.

Purpose of the exercise: This exercise helps to improve specific quick motions in the vertical plane, balance reactions to adapt to forward or backward shift of the body mass centre and good reactivity.

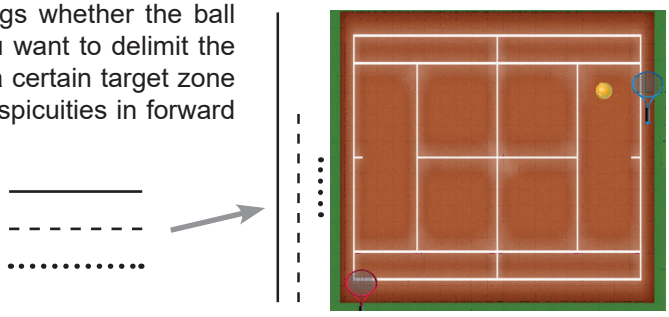
Accessible exercise settings:

In the user-defined setting you can change the following options:

Option	Option of choice	Effect
Ball speed (airspeed)	1 (= slow) to 10 (= fast)	The faster the balls are flying, the more challenging is the task with regard to the speed of reaction.
Opponent‘s speed (speed of reaction of the opponent‘s ‚racquet‘)	1 to 10	The faster the opponent, the higher is his chance to hit the ball, and scoring is more difficult.
Upper half (limitation of the upper court)	Slider from 0 (wide) to 30 (narrow)	For specific exercise of the balance reaction to shifting the body weight forwards – in a defined zone: the higher the ball has to be hit, the more challenging is the task.
Lower half (limitation of the lower court)	Slider from 0 (wide) to 30 (narrow)	For specific exercise of the balance reaction in a defined zone: the higher the ball has to be hit, the more challenging is the task.

You can set with the upper half/lower half settings whether the ball shall fly in across the entire court or whether you want to delimit the court at the top and/or bottom. More exercise in a certain target zone can be indicated for clients who are showing conspicuities in forward or backward coordination.

Target zone with 0 top/0 bottom setting
Target zone with 15 top/0 bottom setting
Target zone with 30 top/15 bottom setting



Client instruction - sample text

> In this game you are the tennis player with the red racquet at the left side of the court. You will have to prevent the ball from flying across the left edge of your court. To do that, you move your racquet into the path of the ball. The ball will bounce off the racquet and be returned to your opponent. You can move only at the left edge of the court. In the upper part of the display you will see the score: on the left are your points and on the right are your opponents‘ points. In addition, you will see the time that has already passed.
>
> Purpose: to win the game, you will either have to score higher than your opponent within a given time or you will have to achieve a certain score.

Exercise module – Exercise: Saving the princess

Exercise: Saving the princess

You have selected the Saving the princess exercise for the currently enabled client.

What the client has to do:

The client controls the knight marked by a blue shield and belt who is appointed to protect the princess from the red robber barons. The red knights can be driven away by simply touching them. The client scores one point for any touch of a red knight. He or she can freely move on the field and use the whole spectrum of motion and coordination. In this manner he or she can exercise balance reactions by shifting the body mass centre into any direction.

If a red knight touches the princess for the first time, however, she gets a fright and loses one ‚life'. If she is touched for the second time, she is horrified and loses her second ‚life'. The third touch terminates the game. The purpose is to keep the red knights away from the princess as long as possible, to score as many points as possible.

According to the settings, several red knights can approach the princess at increasing speed.

Purpose of the exercise: This exercise helps to improve specific, quick motions in the horizontal and vertical plane and good reactivity.

Accessible exercise settings:

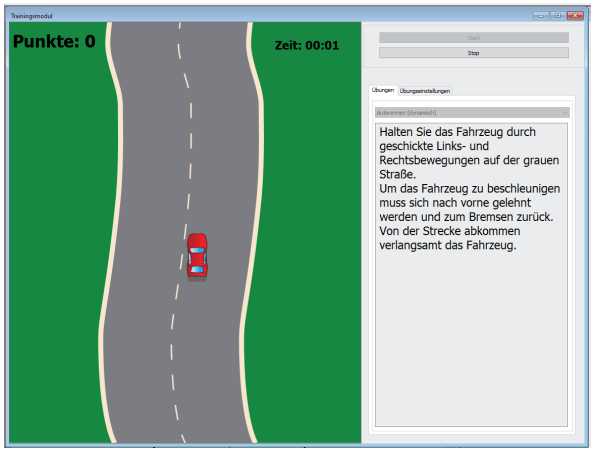
In the user-defined setting you can change the following options:

Option	Option of Choice	Effect
Max. number of opponents (number of red knights on the field at the same time)	1 to 10 (knights)	The more knights have to be fended off at the same time, the more demanding are the task and the requirements for eye-hand coordination.
Opponents' speed (How fast the knights are running)	1 (= slow) to 10 (= fast)	The faster the knights are approaching the princess, the more challenging it is to fend them off, the higher are the demands for the speed of reaction.
Time between opponents (Period after which a new knight appears)	1 (= quick sequence) to 10 (= longer waiting period)	The faster the knights are showing up, the more challenging it is to fend them off.

Client instruction - sample text

> In this game you will control the blue knight by shifting your body mass centre on the platform. The blue knight has to protect the princess from the red robber barons. You may do this by moving your blue knight to the red knights and touching them. The princess may be touched by no more than two red knights. The third knight will kidnap her and you have lost the game. The currently permissible number of touches is indicated top right. You will score for every robber baron whom you have driven away.
>
> Purpose: the purpose of the game is to protect the princess for a certain period or to fend off a certain number of red robber barons.

Exercise: Car racing



You have chosen the Auto Race exercise for the currently activated client.

What the client has to do:

The client can control the red car by shifting the center of gravity of the body:

- Forward: Acceleration
- To the rear: Deceleration
- Targeted left-right movements: Stopping on the road without leaving the track.

If the client leaves the lane, the speed is automatically slowed down.

The faster and smoother the lane is completed, the more points the client receives.

Purpose of the exercise: This exercise is for training:

- targeted, rapid movements in the horizontal plane
- Equilibrium reactions as adaptations of the speed to the displacement of the body center of gravity
- good responsiveness

Accessible exercise settings:

In the user-defined setting you can change the following options:

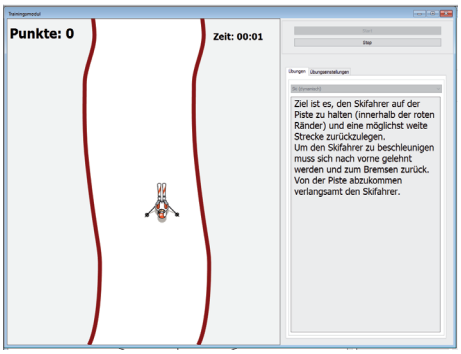
Option	Option of Choice	Effect
Track width (limitation of the travel width)	1 (= narrow) to 10 (= wide)	For targeted training of weight shifting in a defined area: The narrower the road, the more demanding the task.
Motion Variance (curve inclination)	1 (= weak curves) to 5 (= strong curves)	The sharper the curves are, the more demanding the task is in terms of reaction speed.
Slowdown (deceleration strength out-side the roadway)	1 (= low) to 9 (= strong)	The stronger the deceleration, the less distance is driven per time unit.
Auto-Collision (If activated, the game will end in case of a collision.	Activation/deactivation (check mark)	When activated, the game becomes more challenging, as the game is automatically terminated in case of a collision.

Client instruction - sample text

> In this game you have to steer the red car by making targeted left-right movements within the lane. At the same time you have to accelerate or brake the car by shifting the center of gravity of the body forward or backward. The longer you stay on the road, the more points you get.
>
> Goal: To win the game, you have to reach a certain number of points after a given time. If the Auto Collision field is activated, the game is over when a collision occurs.

Exercise module – Extercise: Ski

Exercise: Ski



You have selected the Extercise Ski for the currently activated client.

What the client has to do:

The client can control the skier by shifting the center of gravity of the body.

- Forward: Acceleration
- To the rear: Deceleration
- Targeted left-right movements: Stopping on the ski slope without getting off the track.

If the client leaves the ski slope, the speed is automatically slowed down. The faster and more trouble-free the ski slope is, the more points the client receives.

Purpose of the exercise: This exercise is for training:

- targeted, fast movements in the horizontal plane
- Equilibrium reactions as adaptations of the speed to the displacement of the body center of gravity
- good responsiveness

Accessible exercise settings:

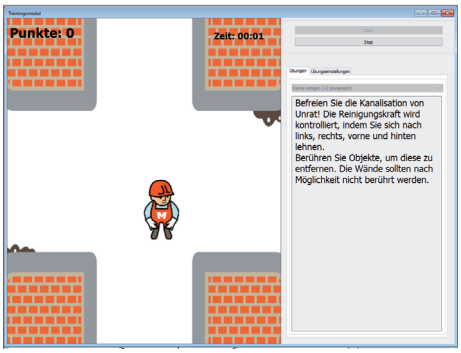
In the user-defined setting you can change the following options:

Option	Option of Choice	Effect
Track width (Limit of the ski slope)	10 (= narrow) to 20 (= wide)	For targeted training of weight shift within a defined range: the narrower the ski slope, the more demanding the task.
Motion Variance (curve inclination)	1 (= weak curves) to 5 (= strong curves)	The stronger the curves are, the more demanding the task is in terms of reaction speed.
Slowdown (deceleration strength outside the ski slope)	1 (= low) to 9 (= strong)	The stronger the deceleration, the less distance is driven per time unit.
Minimum speed	Adjustable minimum speed at which the driver can drive without accelerating or braking.	The lower the minimum speed, the more demanding the task.
Maximum speed	Adjustable maximum speed, which the driver reaches by acceleration.	The higher the maximum speed, the more demanding the task.
Skier Collision (When activated, the game ends in case of a collision.	Activation/deactivation (check mark)	When activated, the game becomes more challenging, as the game is automatically terminated in case of a collision.
Individuelle Sensitivity	The sensitivity can be changed by setting the check mark. 1 (=very insensitive) to 1000 (=very sensitive)	The higher the sensitivity is set, the more demanding the task is.

Client instruction - sample text

> In this game you have to steer the skier by making targeted left-right movements within the ski slope. At the same time you have to accelerate or brake the skier by shifting the body‘s center of gravity. The longer you stay on the slope, the more points you get. Goal: To win the game, you have to reach a certain number of points after a given time. If the skier collision field is activated, the game is over when a collision occurs.

Extercise: Cleaning pipes



You have selected Clean Extercise Tubes for the currently activated client. This Extercise is available as version x and as version +.

What the client has to do:

The client can specifically control the cleaning power by shifting the body's center of gravity to collect garbage and vermin in the sewer. The versions differ in the directions of movement to control the small pipe cleaning power. The little helper moves according to the displacement:
x = specific movement directions in the diagonal
+ = targeted forward, backward and lateral movements
e. g. a shift to the front corresponds to a forward running.

Purpose of the exercise: This exercise is for training:

- targeted, rapid movements in the horizontal and vertical or diagonal plane
- Equilibrium reactions as adaptations of the speed to the displacement of the body center of gravity
- good reaction to suddenly appearing objects or animals.

Accessible exercise settings:

In the user-defined setting you can change the following options:

Option	Option of Choice	Effect
Channel size	1 (= narrow) to 10 (= wide)	For targeted training of weight transfer within a defined range: the narrower the canal size, the more demanding the task.
Garbage frequency (garbage that is added within a certain period of time)	1 (= little waste) to 10 (= much garbage)	The more garbage is added, the more demanding the task is in terms of reaction speed.
Unit size (size of the cleaning power)	FromOption of Choiceen: small, medium, large	The smaller the cleaning power, the more demanding the task.
Maximum amount of dirt (the amount of dirt that automatically ends the game when exceeded)	Adjustable from 5 to 25	The lower the maximum dirt level is set, the more demanding the task is.
Individuelle Sensitivity	Adjustable maximum speed, which the driver reaches by acceleration.	The higher the sensitivity is set, the more demanding the task is.

Client instruction - sample text

For variant „Clean pipes +"

In this game you have to direct the cleaning power through targeted left-right movements as well as forward/backward movements within the sewer system to remove debris.

For variant „Clean pipes x

In this game, you have to direct the cleaning power through targeted diagonal movements within the sewer system to remove debris.

Continue for both variants:

You will receive one point for each piece of garbage removed.

Goal: To win the game, you have to reach a certain number of points after a given time.

Exercise module – Extercise: Street Police

Extercise: Street Police

You have selected Extercise Street Police for the currently activated client. This Extercise is available as version x and as version +.

What the client has to do:

By shifting the centre of gravity of the body, the client can direct the traffic policeman to touch the waiting cars to enable them to continue their journey, avoid accidents and avoid traffic jams.

The versions differ in the directions of movement to control the traffic policeman. According to the shift, the small state policeman moves:

x = specific movement directions in the diagonal

+ = targeted forward, backward and lateral movements

e. g. a shift to the front corresponds to a forward running.

Purpose of the exercise: This exercise is for training:

- targeted, rapid movements in the horizontal and vertical or diagonal plane
- Equilibrium reactions as adaptations of the speed to the displacement of the body center of gravity
- planning procedure (within limits: avoidance of collisions)

Accessible exercise settings:

In the user-defined setting you can change the following options:

Option	Option of Choice	Effect
Traffic volume	1 (= few cars) to 10 (= many cars)	The higher the number of cars at the same time, the more cars the client must allow to continue the journey. This encourages the client to be more active.
Road width	1 (= narrow) to 10 (= wide)	For targeted training of weight shift within a defined range: the wider the road, the more demanding the task.
Traffic Interruption	1 (= no pause) to 5 (= long pause)	Variable delay until the next cars appear. The longer the pause, the longer the client has to act in a more targeted manner, as he may not be able to „wipe“ across the center of the intersection.
Warning tone *	on / off **	A warning tone is heard when leaving the street. This can be used as a disturbance factor.
background noises *	on / off **	Background noises can be used as a disturbing factor (when checked)
Car Collision	on / off **	If collisions are allowed, the client does not receive any points for the „accident“. Then he must strategically pay attention to the order of the passage permissions.

*** Prerequisite that the sounds sound when the check mark is set: Check mark „Sound**
**** on = set hook / off = removed hook**

Client instruction - sample text

For variant „Clean pipes +“

In this game, you as a policeman have to keep the traffic flowing through targeted left-right movements as well as forward-backward movements on the road.

For variant „Clean pipes x

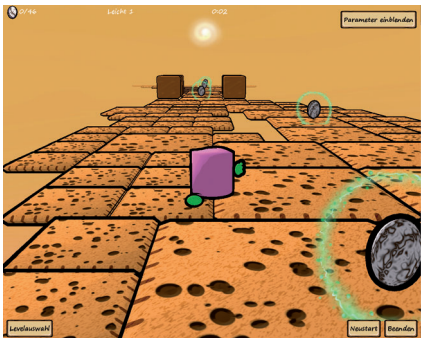
In this game you as a policeman have to keep the traffic flowing by moving diagonally on the road.

Continue for both variants:

You receive one point for each car that passes the intersection without an accident.

Goal: To win the game, you have to reach a certain number of points after a given time.

Extercise: Save the sweets (run)



You have selected the Extercise Save the Sweets (run) for the currently activated client.

What the client has to do:

The client can control the Marshmellow-Man by shifting the center of gravity of the body and collecting chocolate lentils.

- Forward: acceleration and forward running
- To the rear: Deceleration
- Targeted left-right movements: turn to the respective side and run in that direction.

If the Marshmellow Man runs against a wall element, he is slowed down. If he steps into a hole or gets off the tread, he falls and has to continue his run again. Depending on the level, the surface becomes more twisty, more holey or is blocked by obstacles. Some cookies can also crumble away under his feet if it is too slow.

Purpose of the exercise: This exercise is for training:

- targeted, fast movements in the horizontal and vertical plane
- Equilibrium reactions as adaptations of the speed to the displacement of the body center of gravity
- anticipatory approach (which way to the next reachable chocolate lens has to be taken.)

Accessible exercise settings:

In the user-defined setting you can change the following options:

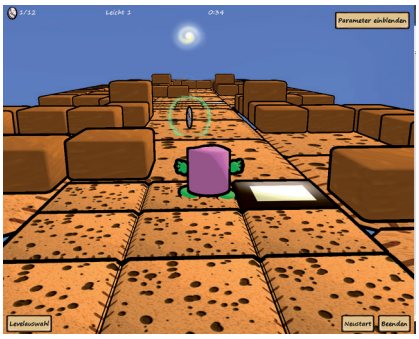
Option	Option of Choice	Effect
Running speed	controller left = slow, controller right = fast	The faster the figure moves, the faster you have to react.
Rotation speed	controller left = slow, controller right = fast	The faster the figure rotates, the more dosed the reaction must be.
Rest area	controller left = longer, controller right = shorter	The shorter the resting phase, the more the kientn must concentrate and continue the Extercise after an error.
Level selection	light (1 to 4) medium (1 to 4) heavy (1 to 4)	The preset levels influence the surface shape and the number / arrangement of obstacles)

Client instruction - sample text

> In this game you have to run as a marshmallow figure on the cookie path by making targeted left-right and forward movements, collecting chocolate lentils and avoiding obstacles and cookie gaps. If you run too slowly or stop, cookies may crumble away. Plan the route sensibly and look ahead. Some lenses can only be reached if you walk behind a chocolate wall. Goal: To win the game, you must reach a certain number of points after a given time.

Exercise module – Save the Sweets (think)

Extercise: Save the sweets (think)



You have selected the Extercise Save the Sweets (Denk) for the currently activated client.

What the client has to do:

The client can control the Marshmellow-Man by shifting the center of gravity of the body and collecting chocolate lentils. Meanwhile tasks have to be solved.

- Forward: acceleration and forward running
- To the rear: Deceleration
- Targeted left-right movements: turn to the respective side and run in that direction.

If the Marshmellow Man runs against a wall element, he is slowed down. Flashing circles indicate where more chocolate lentils are hidden. By moving wall elements, stepping on marked areas or solving other events, the path to these chocolate lentils is cleared and they can be collected. Depending on the level, the area becomes more angled, more holey or is blocked by obstacles. The tasks also become trickier.

Purpose of the exercise: This exercise is for training:

- targeted, fast movements in the horizontal and vertical plane
- Equilibrium reactions as adaptations of the speed to the displacement of the body center of gravity
- anticipatory approach (which way to the next reachable chocolate lens has to be taken.)

Accessible exercise settings:

In the user-defined setting you can change the following options:

Option	Option of Choice	Effect
Running speed	controller left = slow, controller right = fast	The faster the figure moves, the faster you have to react.
Rotation speed	controller left = slow, controller right = fast	The faster the figure rotates, the more dosed the reaction must be.
Rest area	controller left = longer, controller right = shorter	The shorter the resting phase, the more the kientn must concentrate and continue the Extercise after an error.
Level selection	light (1 to 4) medium (1 to 4) heavy (1 to 4)	The preset levels influence the surface shape and the number / arrangement of obstacles)

Client instruction - sample text

> In this game you have to move as a marshmallow figure through targeted left-right and forward movements in the maze, collecting chocolate lentils and avoiding obstacles and cookie gaps. You also have to complete certain tasks to reach hidden chocolate lentils. If you walk too slowly or stop, cookies may crumble away. Plan your route sensibly and look ahead. Goal: To win the game, you must reach a certain number of points after a given time.

5.5 Analysis module

This chapter will inform you how to call up and interpret the data analysis (recordings and exercises).

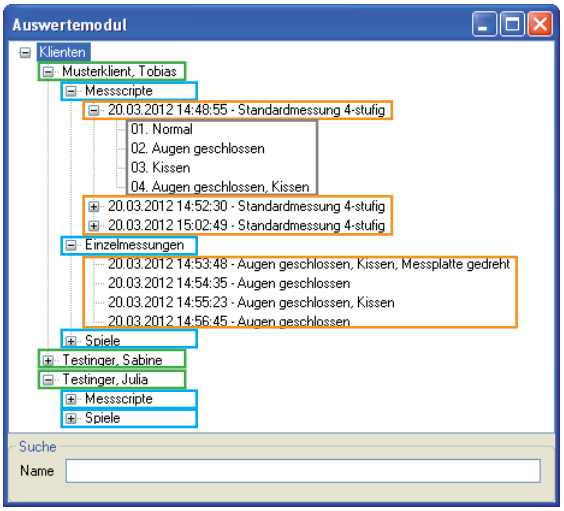
The saved data are associated to the client who was enabled at the time of recording. The storage is accordingly arranged in levels:

Level 1: by client

Level 2: by type
(standard recordings/advanced recordings/ exercises)

Level 3: by time
(sorted by date and time)

Level 4: steps of a standard script (4 step protocol)
(sorted by date and time)



1. Click Analysis module in the menu bar. The Analysis module window opens. The clients are alphabetically listed. If there is a plus icon in front of a client, this means that there are recordings present for this client.
2. Click the plus icon in front of the client whose recordings you would like to call up. The list of recordings types available for this client is shown.
3. Click on the plus sign in front of the recordings type you would like to call up. The list of saved recordings of this type is shown.
4. Click twice on the entry that you would like to see. The desired analysis will automatically open after a few seconds.

Advice: Notes on the analysis of a full standard script (4 step protocol) you may find in the chapter End of recording and analysis.

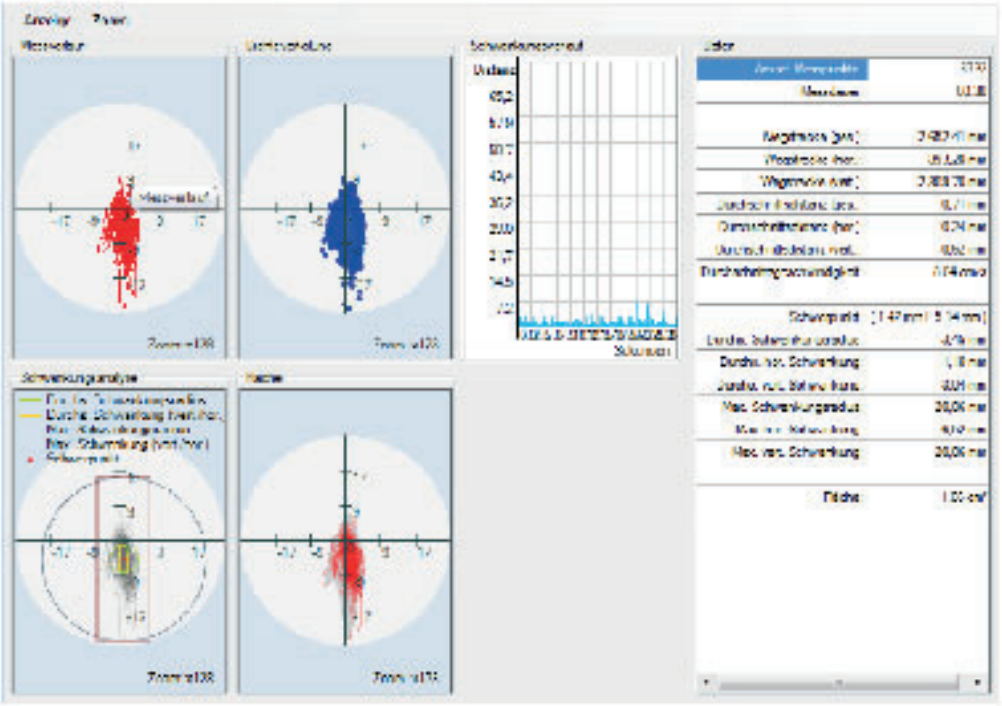
Supplement for measuring scripts: You can call up an analysis of each individual recording step of a 4-step standard script.

5. Click on the plus icon in front of the recording that is interesting you. The list of advanced recordings is shown.
6. Click twice on the entry of the recording step that you would like to see. The desired analysis will automatically open after a few seconds.

Analysis module

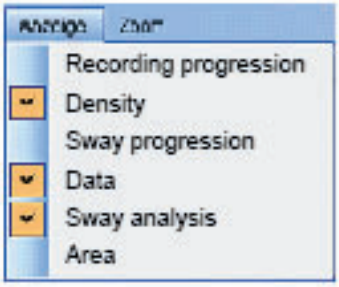
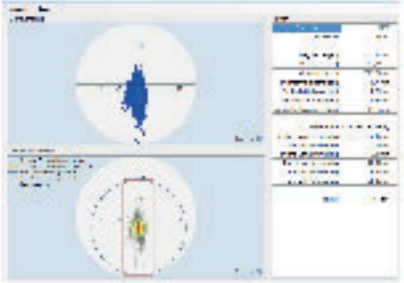
Analysis of individual results:

- Individual step of a standard script
- Advanced
- Exercise

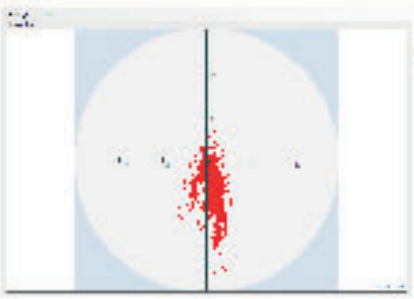
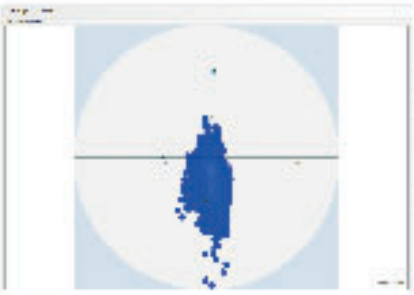
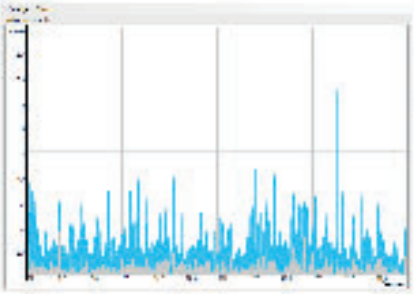
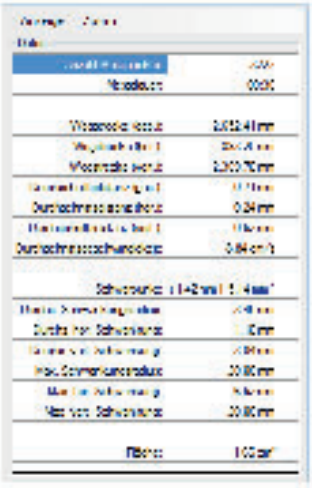


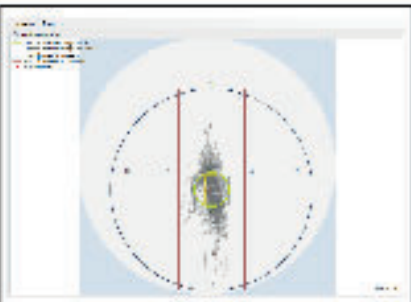
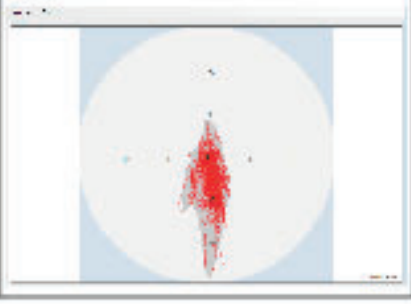
This analysis contains a display of the data in six different ways that you can individually view or blank.

Note: If you want to change the number of types, click on the Display cascade menu item. All display types from which you may select are listed there. The ticked types are currently shown.

Display in the menu	Example of a screen display
	
	

The following table will show you which display types are available and what kind of statements you will get from them.

Type	Example	Statement
Recording progression		Full trace of the motions during recording – displayed as a continuous line.
Density		Frequency of positions in a motion during recording. About 120 measuring points per second are recorded and saved. Very quick motions are displayed as a sequence of dots. A continuous line of dots represents slower motion. Changing colour marks the frequency/period that a client has spent at a place. 
Sway progression		How did the client's sway response change during recording? In advanced recordings, i. e. a non-changing task, the sway response should be more or less stable.
Data		Here the statistics of individual measuring results are shown.

Sway analysis		Graphics of different features are shown here: • Average swaying radius • Average sway • (vertical/horizontal) • Maximum swaying radius • Maximum sway (vertical/horizontal) • Mass centre during recording Click the right mouse button on the field.  You may either • dview or blank the swaying radius • view or blank the sway • view or blank the curve The tick indicates that this option is already displayed.
Area		Here the whole sway area is displayed.

Note on the analysis of exercises

It is normal for exercises that the sway response will change with rising difficulty level, because the client has to react on varying tasks and positions of elements (areas, circles, balls, …). Consider this when examining the analysis by graphical representation.

5.6 Fault location

This chapter will inform you about what to do in case of problems with the *Medi*Balance Pro.

Fault	Proposal for a solution
After notes were entered (in the Notes tab), the Beginner tab has disappeared. The standard script cannot be carried out any more.	*The control bar was made very narrow, so that as large a space as possible is available for the recording window.* *Click on ‚Advanced' and press the left arrow key at your keyboard or click the left blue arrow to the right of the Notes tab. The Beginner tab will reappear.*
The red measuring dot has disappeared after a recording step.	The plug connection from the platform to the computer may have been interrupted for a short time or the *Medi*Balance Pro platform was moved jerkily or violently. Close the software (any recordings were automatically saved!), remove the plug, replug into the socket and open the software once more. The connection will be recognised again. Recalibrate. The *Medi*Balance Pro system is operational again.
The recordings for analysis take a long time to open (some seconds)	*Many data may have been saved, according to how long the recording/exercise session has been. They have to be read to display the analysis.* *Here we will simply ask for patience.*
There are errors in my software version.	Perhaps an update or patch of your software has been made available since you have installed it. Compare your software version number (Help menu --> Info item) to the most recent version available online at **www.download.meditech.de**. Install the most recent version. If the error is still present, please, contact the customer service. Please, note that these updates are available only to our service and maintenance contract customers.
The surface of the blue cushion is cracked or dyed.	***Information by the cushion manufacturer:*** *The special production process by which the softness and the ‚wobbling effect' are achieved may cause some imperfections to the cushions, such as a few minor surface bubbles, little deviances from the size tolerance or slight discolouring. Their use is in no manner impaired.*
The blue cushion has dents. or The blue cushion is brittle and hardened.	***Information by the cushion manufacturer:*** *To avoid dents, keep any objects from lying on the cushion for a longer time. Avoid continuous pressure strain for more than approx. 12 hours. Bending during storage (e.g., on a clothesline) may leave visible dents that do not fully go away any more.* *Continuous water absorption or extended direct solar irradiation will shorten the calendar life of the products because the surface may after some time turn brittle and stiff.*

Did any other questions, faults or problems occur when working with the *Medi*Balance Pro software, platform or overall system?
Please, contact our technical customer support: +49-(0) 5130-97778-55
We will discuss further measures together!

Advice: *We strongly recommend to have the MediBalance Pro system once per year maintained by the manufacturer. You can sign a maintenance contract. Please, find it online at www.wartung.meditech.de*

6 Technology and maintenance

The following chapter will inform you about the technical data of the MBP system and the technical accessory and about the notes on the rating plate of the device. In addition, you will be instructed on how to clean the device, how to keep it in good condition, how to store it and how to properly dispose of it.

6.1 Repair and maintenance

⚠ **Attention!** Repair and maintenance may be carried out only by the manufacturer or by authorised service staff.

☞ **Important:** Opening the glued blue cushion or any unauthorised attempts to repair technical parts are inadmissible and will compromise liability and warranty of the manufacturer.

Manufacturer specifications: The *Medi*Balance Pro platform has to be maintained once per year by the manufacturer. On this occasion it has to be calibrated using reference values..

Note: It is advisable to sign a maintenance contract, including not only maintenance but other *Medi*Balance Pro services, too.

6.2 Cleaning

1. Remove the plug of the cable connection to the computer before cleaning.
2. Use lint-free cloth, damped with any customary disinfectant, to clean the supporting rack, the black enclosure of the platform and, above all, the grey tread before reuse and after use.

⚠ **Attention!** For cleaning, strictly observe the usage and safety notes of the respective disinfectant manufacturer.

⚠ **Attention!** Avoid any contact of the device with ultrasonic baths, flowing water or chemical cleaners, such as diluents, alcohol, etc. The device might be damaged or destroyed.

The manufacturer of the cushions recommends for cleaning the blue cushions (either the firmly installed cushion under the black upper shell or the add-on cushion)::

1. Preferably remove dirt of any kind with a soft brush and lukewarm soap water.

⚠ **Attention!** Blotches and similar dirt may not be treated with petrol or stain remover. The blue soft foam could be damaged.

2. If disinfection is required, use any customary disinfectant, like Merfen, Desogen or Chromium.
3. The following is recommended to prolong the calendar life: rinse the add-on cushion after use with clear water, shake out the water and let the cushion dry in the air (not over heaters etc., as they might cause dents).
4. Airex® soft foamed plastics are equipped with SANITIZED® and, hence, offer effective long-term protection against bacteria and fungus.

Important: Sterilisation with superheated steam (autoclave sterilisation) or hot water is not permissible. The foamed plastic could be damaged!

6.3 Maintenance and storage

1. If the *Medi*Balance Pro platform will not be used for some time, it should be economically and safely stored in the proper transport bag that came with the scope of supply, to save space and to avoid tripping.
2. The supporting rack can also be folded up and stowed away to save space.
3. Keep device, cushion and bag at room temperature in a dry space.

Contact us if the device does not function properly any more.

⚠ **Attention!** The user may not try to repair a fault of the platform, the supporting rack or the add-on cushion. The components could be damaged. Any unauthorised attempts to repair will compromise liability and warranty of the respective manufacturer.

The manufacturer recommends for storing the blue add-on cushion:

1. The cushion is ideally stored either lying flat or in the wrapping. To avoid dents, keep any objects from lying on the cushion for a longer time. Avoid continuous pressure strain for more than approx. 12 hours.
2. Bending during storage (e.g., on a clothesline) may leave visible dents that do not fully go away any more. Continuous water absorption or extended direct solar irradiation will shorten the calendar life of the products because the surface may after some time turn brittle and stiff.
3. For reasons of hygiene, you should not store wet products in cloakroom cupboards or stacks.

6.4 Transport

1. Transport the platform economically and safely in the transport bag that came with the scope of supply. The platform will be safe inside.
2. Transport the blue add-on cushion in the wrapping that you can strap down with the black belts at the outside of the transport and storage bag.
3. Transport the supporting rack folded up, for reasons of space and stability.

6.5 Disposal

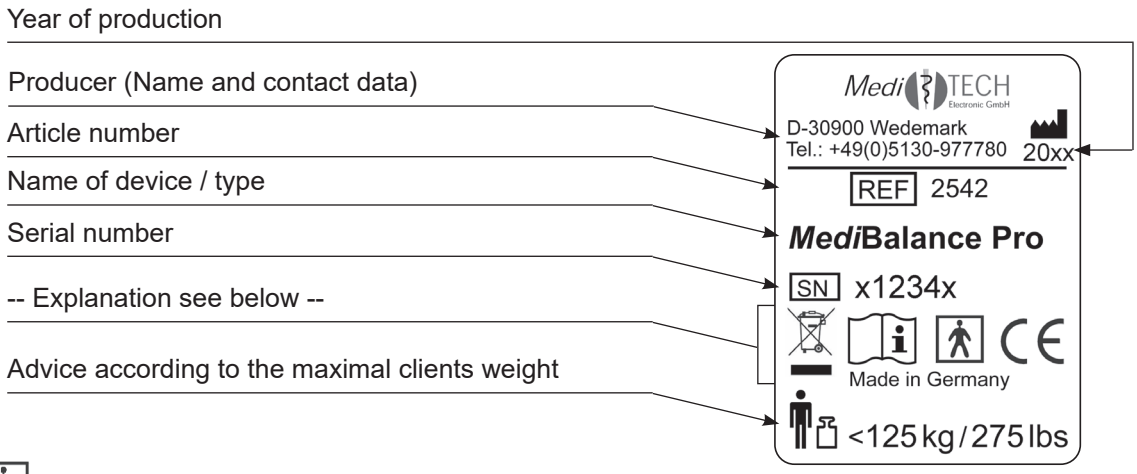
Pull the plug of the cable connection to the computer from the *Medi*Balance Pro platform.

Advice: The *Medi*Balance Pro platform may not be disposed of in domestic waste because it includes electronic parts. Deliver the device to a refuse processing company for electronic parts or send it (with a short note about the intended purpose) to:

*Medi*TECH Electronic GmbH
Langer Acker 7
30900 Wedemark
Telefon: +49-(0)5130/97778-0

You can dispose of the cushion and the blue add-on cushion in the same way.

6.6 Rating plate



Applied part:
This icon means that the usage of the *Medi*Balance Pro platform requires additional ‚applied parts' which are not included in the scope of supply. This means a computer, for example.

Attention, read and understand the instructions before use!

Environmental disposal classification
(see chapter Disposal

6.7 Technical data

Protection class	IP 30 (according ISO EN 60529:2000)
Power supply	The power supply is established by the USB cable when it is connected to the switched-on computer.
Power consumption	Up to 160 mA at 5 V
Calendar life	Approx. 10 years The production year is noted on the rating plate.
Measuring values	accuracy +/- 1 % – based on the measured angles of inclination
Size Width x height x depth	47.7 cm x 6.6 cm x 39.5 cm (seen from the upper edge – from the USB connection socket)
Weight	3.65 kg (without add-on cushion)
Specific features	Slip-resistant surface below the firmly installed cushion

Operation	
Ambient temperature	+5 °C to +40 °C
Relative air humidity	40% - 65%
Atmospheric pressure	700 - 1060 hPa

Storage and transport	
Ambient temperature	-20 °C to +50 °C
Relative air humidity	20% - 95%
Atmospheric pressure	700 - 1060 hPa

6.8 Electromagnetic compatibility – Guidance and manufacturer‘s declaration

Electromagnetic compatibility

DIN EN 60601-1-2:2011 (IEC 60601-1-2:2011)

Medical electrical devices are subject to special precautionary measures in particular regarding the EMC with the installation and the operation.

Portable and mobile HF-communication devices e.g. mobile phone can affect medical electrical devices.

A use of other accessories and lines than the indicated, can lead to an increased sending or a reduced noise immunity of the equipment. The equipment has to be operated exclusively with original accessories.

The device should not be used adjacent to or stacked with other equipment. If adjacent or stacked use is necessary, the device should be observed to verify normal operation in the configuration in which it will be used.

Electromagnetic emissions		
*Medi*Balance Pro is intended for use in the electromagnetic environment specified below. The customer or the user of the *Medi*Balance Pro should assure that it is used in such environment.		
Emission test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	The *Medi*Balance Pro uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions nach CISPR 11	Class B	The *Medi*Balance Pro is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings uses for domestic purposes.
Harmonic emissions IEC 61000-3-2	not applicable	
Voltage fluctuations / flicker emissions IEC 61000-3-3	not applicable	

Electromagnetic immunity I			
The *Medi*Balance Pro is intended for use in the electromagnetic environment specified below. The customer or the user of the *Medi*Balance Pro should assure that it is used in such environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity shall be at least 30 %.
Electrical fast transient / burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input / output lines	not applicable	Mains power quality should be similar to that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV common mode ± 2 kV differential mode	not applicable	Mains power quality should be similar to that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	< 5 % U_T (> 95% dip of U_T) for 1/2 cycle 40 % U_T (60 % dip of U_T) for 5 cycle 70 % U_T (30 % dip of U_T) for 25 cycle <5 % U_T (> 95 % dip of U_T) for 5 s	not applicable	Mains power quality should be similar to that of a typical commercial or hospital environment. When the user of the *Medi*Balance Pro continued function also calls in the event of disruption of supply, it is recommended the *Medi*Balance Pro form an uninterruptible power supply.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at leves characteristic of a typical location in a typical emmercial or hospital environment.

Note: U_T is the ac mains voltage prior to application of the test level.

Electromagnetic immunity II			
The *Medi*Balance Pro is intended for use in the electromagnetic environment specified below. The customer or the user of the *Medi*Balance Pro should assure that it is used in such environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Conducted RF IEC 61000-4-6	3 V eff 150 kHz to 80 MHz	3 V eff 150 kHz to 80 MHz	Portable and mobile RF communication equipment should be used no closer to any part of the *Medi*Balance Pro, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m 80 MHz to 2.5 GHz	Recommended separation distance: $d = 3,5/3 \sqrt{P}$ $d = 3,5/3 \sqrt{P}$ 80 MHz to 800 MHz $d = 7/3 \sqrt{P}$ 800 MHz to 2,5 GHz
			Where P is the maximum output power rating of the transmitter in watts (W) according to the recommended separation distance in meters (m). Field strength form fixed RF transmitters, as determined by an electromagnetic site surway [A], should be less than the compliance level in each frequency range [B]. Interference may occur in the vicinity of equipment marked with the following symbol: 

Note 1: At 80 MHz and 800 MHz the higher frequency range applies.

Note 2: These guidances may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

A Field strenghts from faced transmitters, such as base stations for radio (cellular / cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy.
To access the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the *Medi*Balance Pro is used exceeds the applicable RF compliance level above, the *Medi*Balance Pro should be observed to verify normal operation.
If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the *Medi*Balance Pro.

B Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 10 V/m.

Recommended separation distances for portable and mobile RF communication equipment and the *Medi*Balance Pro			
The *Medi*Balance Pro is intended for the use in the electromagnetic environment in which radiated RF disturbances are controlled. The customer or user of the *Medi*Balance Pro can help to prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communication equipment (transmitters) and the *Medi*Balance Pro as recommended below, according to the maximum output power of the communications equipment.			
Rate maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = 1.2 \sqrt{P}$	80 MHz to 800 MHz $d = 1.2 \sqrt{P}$	800 MHz to 2,5 GHz $d = 2.3 \sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.37	0.37	0.74
1	1.17	1.17	2.33
10	3.69	3.69	7.38
100	11.67	11.67	23.33

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be determined using the equation applicable to the frequency of the transmitter, where P is the maximum output power ratin of the transmitter is watts (W) according to the transmitter manufacturer.

Note 1: At 80 MHz and 800 MHz the higher frequency range allies.
Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and peoples.

7 Service

7.1 Contact data of producer

*Medi*TECH Electronic GmbH
Langer Acker 7
D-30900 Wedemark
Tel.: +49-(0)5130-97778-0
Fax: +49-(0)5130-97778-22
Mail: service@meditech.de
Internet: www.meditech.de

7.2 Warranty

After acquiring the *Medi*Balance Pro system from *Medi*TECH Electronic GmbH you are granted a warranty claim for faultless operation of the device that will expire after two years. Malfunction and damage from improper use are excluded.

Beside this warranty, we are supplying a hotline service for any questions and problems ‚concerning balance exercise' for all the time you will be working with the system.

You may call the hotline at the phone number:

+49-(0) 5130 - 97778-0

Of course you may also send your questions in written form:

by fax: +49-(0)5130 - 97778-22
by Email: service@meditech.de

7.3 EC declaration of conformity

Please, find the current EC declaration of conformity of this product at www.ce.meditech.de.

If you have questions about use, in case of problems, if you want to tell us about your experiences with the system or if you are looking for further information – please do not hesitate to contact us:

*Medi*TECH Electronic GmbH
Langer Acker 7
D-30900 Wedemark (Region Hannover)

Tel.: +49 - (0) - 51 30 - 9 77 78-0
Fax: +49 - (0) - 51 30 - 9 77 78-22

Email: service@meditech.de
Internet: www.meditech.de