

Usage Guidelines for Medical/Research Staff

v. 1.2 2025-07-14

Requirements for using the app

- Google Account
- Smartphone with Google Play account
- Smartwatch connected to the smartphone mentioned above
- Smartwatch charging base with power adapter
- Internet connection
- PD-Watch app

App installation

Use a PC or smartphone to connect to the following link:

https://play.google.com/store/apps/details?id=it.biomedicallab.pd_watch

Click on "Install" and select the smartwatch on which to install the PD-Watch app.



Once the installation is complete, the PD-Watch app will be visible in the smartwatch menu:

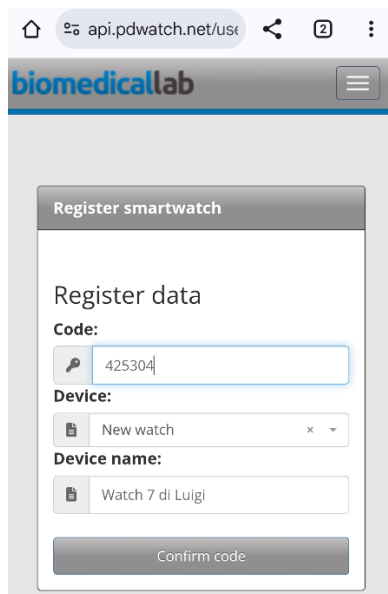


App Activation

The app activation is required only during the first use or when installing a new version of the app.

- 1) Click on the app icon visible in the menu.
- 2) Click on "Allow" to enable consent for data collection during the use of the app.
- 3) Go to the website api.pdwatch.net in the Utilities > Register App section.
- 4) Enter the registration code that appears in the app into the "Code" field. N.B.: The code expires after 5 minutes.

In the "Device" field, select "New Watch," and in the "Device Name" field, enter a reference name for your watch (e.g., Luigi's Watch).



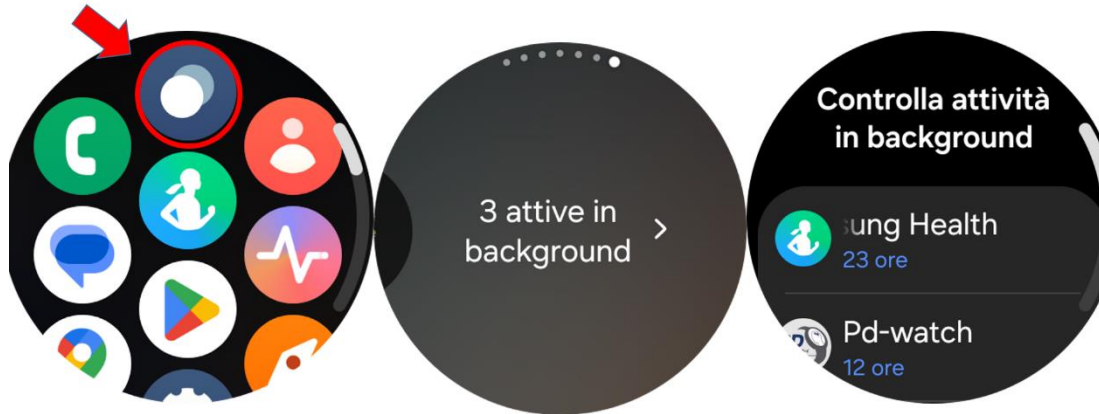
The screenshot shows a web browser interface for the 'biomedicallab' website. The page title is 'Register smartwatch'. Under the heading 'Register data', there are three fields: 'Code:' with a text input containing '425304', 'Device:' with a dropdown menu showing 'New watch', and 'Device name:' with a text input containing 'Watch 7 di Luigi'. A 'Confirm code' button is at the bottom.



At the end of the activation and registration process, the app will display a message indicating that it is paused and awaiting scheduling and configuration of a data recording session.

App setup

- Ensure the smartwatch can connect to the Internet at the end of each recording day
- Grant consent for background activity through the Samsung Wear app on the smartphone.
- Open the PD-Watch app on the smartwatch via Samsung Wear on the smartphone.
- Access the list of apps running in the background on the smartwatch. After several seconds, you should see the PD-Watch app appear in the list of background apps:



- Go to Settings > Battery > Sleeping apps on the watch. If the PD-Watch app is listed there, remove it from the list.

N.B.: If the countdown appears slow during recording, it indicates that the app is not functioning properly in the background. Therefore, before wearing the watch tomorrow morning or the first suitable day, please double-check that the app is correctly allowed to run in the background.

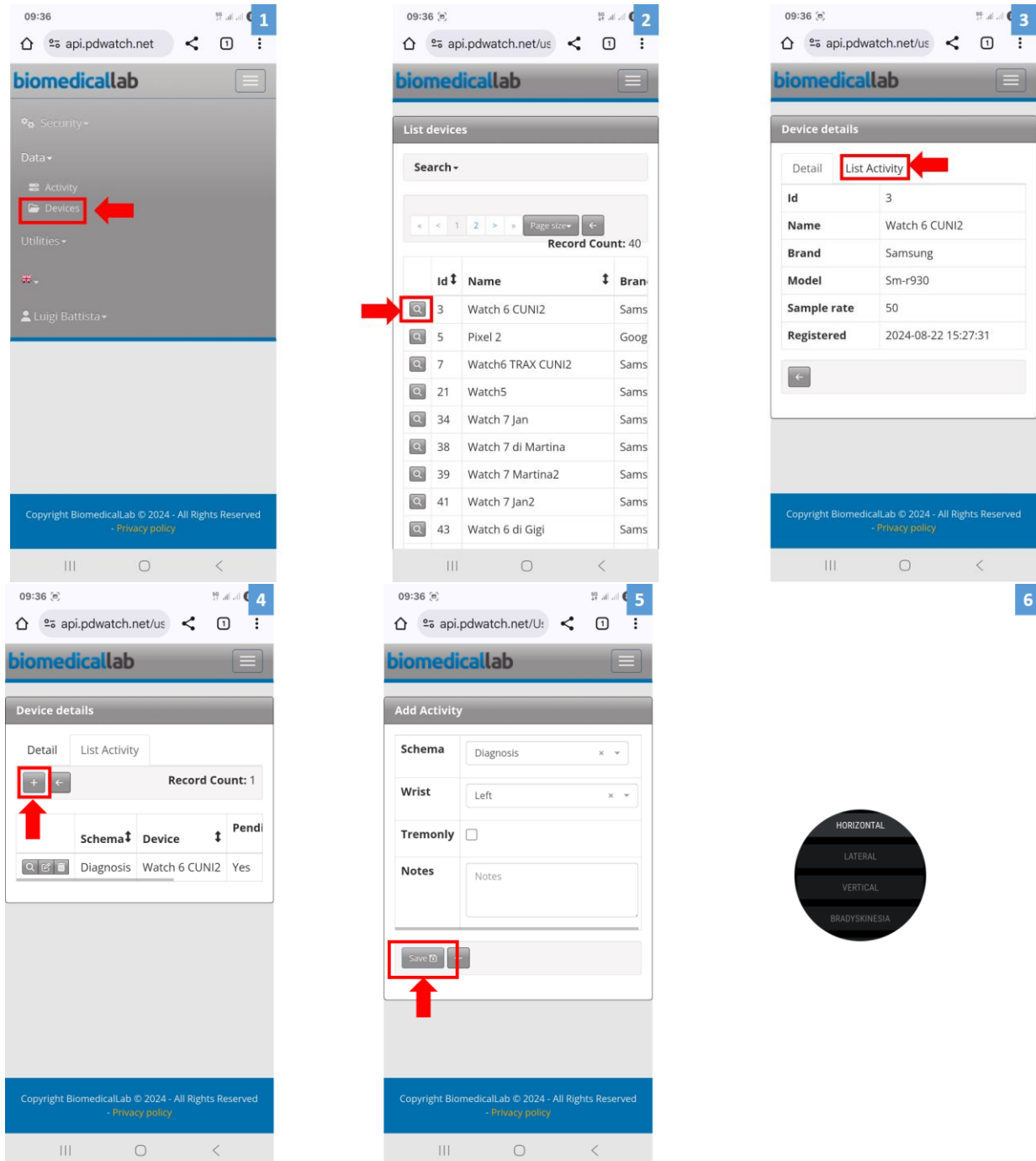
Setting Up a Data Recording Session and Generating the Report with the App and Smartwatch

Inform Biomedical Lab that a patient has been enrolled and that a recording session needs to be initiated. After the recording is complete, Biomedical Lab will send the report.

NOTE: Alternatively, you can use your account on the website api.pdwatch.net to independently manage the steps for creating a new recording session and generating a report, as described below:

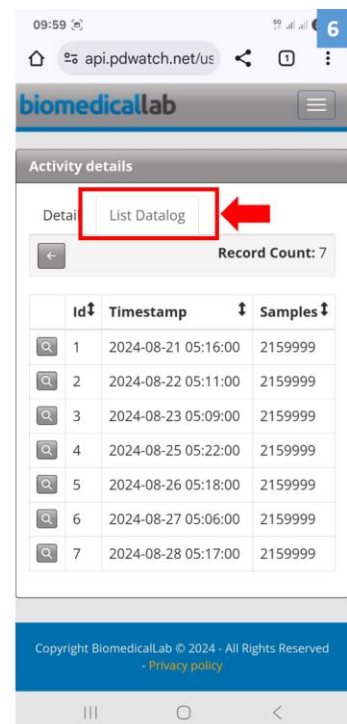
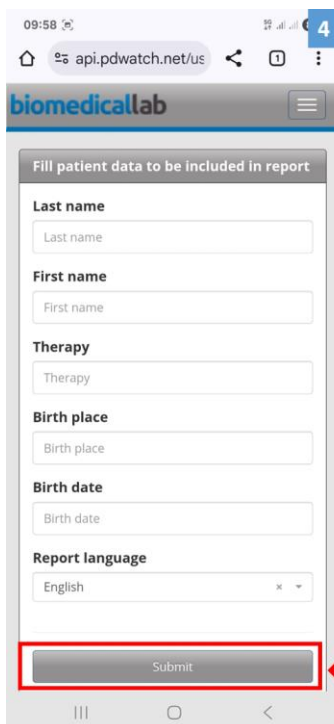
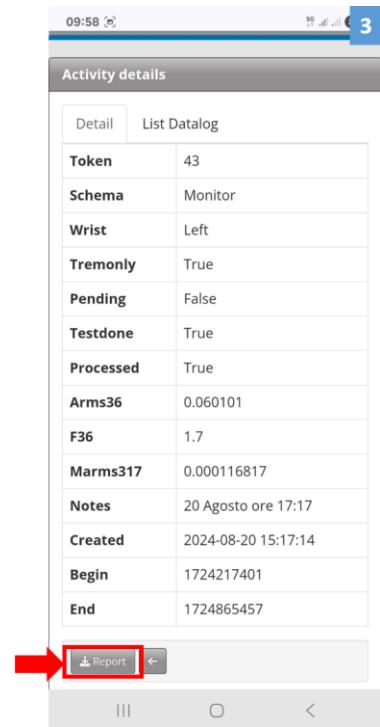
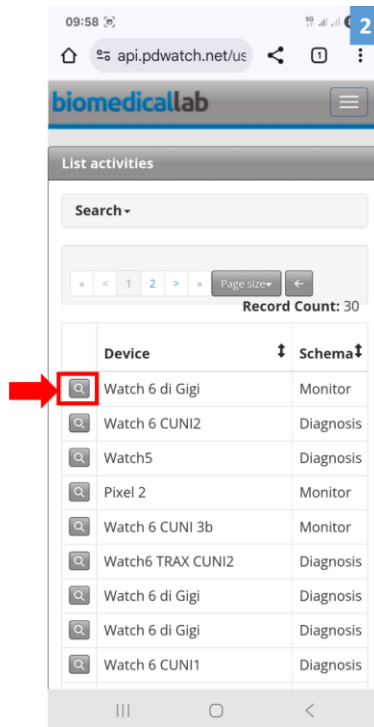
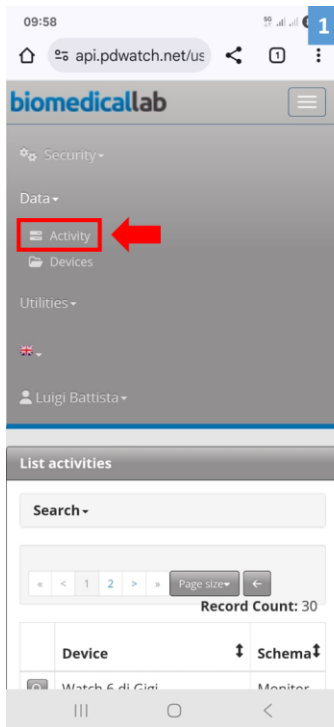
Setting Up a Data Recording Session

1. From the "Data" menu, click on "Devices".
2. From the "Devices List," select your device by clicking on the magnifying glass icon.
3. Click on "List Activity."
4. Click on the "+" button.
5. Select the application (Diagnosis or Monitoring) and the device position (right or left wrist), then click "Save."
6. Wait a few seconds, and you will see the screen for the rapid test appear on your smartwatch. Please ensure that the smartwatch has an active internet connection.



Generating the Report

1. From the "Data" menu, click on "Activity."
2. From the "Activity List," select your recording session by clicking on the magnifying glass icon.
3. Click on "Report."
4. Fill out the form and click "Submit."
5. Once the report is generated, you can save it as a PDF file or share it.
6. During the 7-day recording session, you can monitor the progress by clicking on "List Datalog" from the menu accessed in step 3.



For any inquiries, you can use the references below:

Email: support@biomedicallab.it

WhatsApp: 0039 333 5231370

Tips for Using Your Smartwatches in Patient Studies

- Use a dedicated smartphone.
- Use a dedicated Google account.
- Connect one or more smartwatches to the aforementioned smartphone using the dedicated Google account and not a personal one.

Usage Guidelines for Patients and Medical/Research Staff

Start a data recording session with the app and the smartwatch

Introduction

Once the recording session has been set up by the medical staff, the app is ready for a recording session. The recording session consists of two phases:

- 1) **ACTIVE TESTS:** The patient will be asked to perform 5 tests, each lasting a few seconds. The tests can be performed immediately, as soon as the smartwatch is available.
- 2) **PASSIVE RECORDING:** After the tests in the previous point, a 12-hour continuous recording will be carried out each day for seven days. The recording on the first day starts automatically in the morning between 6:00 AM and 10:00 AM, as soon as the smartwatch is worn. The same procedure will be followed until 7 days of recording are completed.

The method for conducting the recording session is described below.

Performing Active Tests

If the recording has been set up correctly, the PD-Watch app will display the following screen:



It is recommended to perform these tests with the medical staff or with a properly instructed family member/caregiver.

Test 1: Horizontal Calibration

- 1) Place the smartwatch on a flat surface or table with the screen facing up.



- 2) Press "Horizontal" on the screen display. After pressing "Horizontal," do not touch the table or the smartwatch.
- 3) Wait for the "Horizontal" line to change color. If the "Horizontal" line turns green, the test is successful, and you can proceed to the next step. If the line is red, repeat the test following the instructions from point 1. If the issue persists, contact the medical staff. During the test, the line is yellow.

Test 2: Lateral Calibration

- 1) Place the smartwatch on a flat surface or table with the screen facing sideways, either to the right or left.



- 2) Press "Lateral" on the screen display. After pressing "Lateral," do not touch the table or the smartwatch.
- 3) Wait for the "Lateral" line to change color. If the "Lateral" line turns green, the test is successful, and you can proceed to the next step. If the line is red, repeat the test following the instructions from point 1. If the issue persists, contact the medical staff. During the test, the line is yellow.

Test 3: Vertical Calibration

This test must be performed with medical staff or a family member.

- 1) Take the smartwatch by the upper end of the strap and place it against a vertical wall or hold it in a vertical position with your hands. The smartwatch can be kept steady in a vertical position by using a nail/hook or, if unavailable, it can be held by the upper end of the strap.



- 2) Press "Vertical" on the screen display. After pressing "Vertical," do not touch the smartwatch.
- 3) Wait for the "Vertical" line to change color. If the "Vertical" line turns green, the test is successful, and you can proceed to the next step. If the line is red, repeat the test following the instructions from point 1. If the issue persists, contact the medical staff. During the test, the line is yellow.

Test 4: Bradykinesia

This test must be performed with medical staff or a family member.

The following exercise will be performed: extend the arm in front of you with the palm facing down, then alternately rotate it upwards, repeating this movement as many times as possible for about 10 seconds, as quickly and completely as possible.

A few moments after pressing "Bradykinesia," you can begin performing the requested movement. Shortly after, you will feel a vibration, indicating that the recording has started correctly. Continue performing the movement for about 10 seconds until you feel a double vibration; this double vibration indicates that the recording has finished.

If you think you haven't performed the test perfectly, you can repeat it by pressing "Bradykinesia" again and going through the steps once more.



- 1) Wear the smartwatch on the wrist most affected by tremor or motor disorders.
- 2) Press "Bradykinesia" and begin the movement described above; when you feel the vibration, continue with the required movement.
- 3) When you feel the double vibration after about 10 seconds of performing the movement, stop the exercise.

Test 5: Tremor

This test must be performed with medical staff or a family member.

The following exercise will be performed: Sit comfortably with your hands on the armrests of the chair (not on your lap) and your feet flat on the floor for about 10 seconds, staying still and not making any other movements.

Immediately after pressing "Tremor," you can start staying still on the chair as instructed by the test. You will soon feel a vibration, indicating that the recording has started correctly. Continue staying still for about 10 seconds until you feel a double vibration; this double vibration indicates that the recording has ended.

If you think the test wasn't done perfectly, you can repeat it by pressing "Tremor" again and following the steps once more.



- 1) Wear the smartwatch on the wrist most affected by tremor or motor disorders.
- 2) Sit on the chair and place your hands on the armrests of the chair.
- 3) Press "Tremor" and remain still; when you feel the vibration, continue staying still.
- 4) When you feel the double vibration after about 10 seconds of staying still and seated, finish the required exercise.

Preparation for Passive Recording

After completing the active tests, the smartwatch will pause and begin passive recording the following morning as soon as it is worn between 6:00 AM and 10:00 AM. If you forget to wear the smartwatch, the recording will be done the next day, skipping the day it was not worn.

Similarly, if the smartwatch turns off during recording, the recording will be done the next day, skipping the day when the smartwatch was off during the recording.

Instructions:

- 1) After completing all 5 active tests, ensure that there is a screen like the one below.



Example: This screen indicates that the recording for the first of seven days (i.e., 1/7) will begin in approximately 13 hours and 10 minutes.

- 2) Use the charging dock to charge the smartwatch.



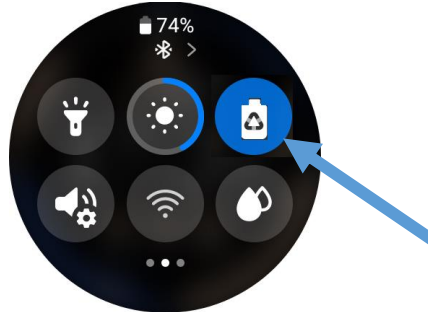
- 3) Place the smartwatch on the charging dock and ensure it is charging correctly. When charging begins successfully, the display will show the battery percentage as shown in the figure below.



- 4) Wait until the next day to wear the smartwatch and start recording.

Performing Passive Recording

- 1) Ensure that the time is between 6:00 AM and 10:00 AM.
- 2) Make sure the smartwatch is fully charged with 100% battery.
- 3) Activate the power-saving mode from the main menu of the smartwatch.

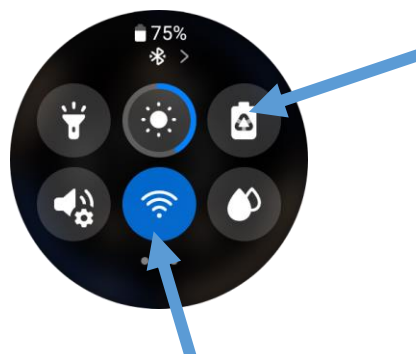


- 4) Wear the smartwatch on the wrist most affected by tremor or movement disorders.
- 5) Ensure that the recording has started. If the recording has started correctly, a screen will appear like the one below, showing the status as "Running":

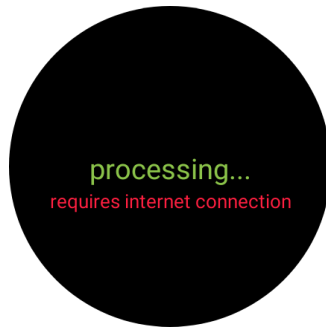


Example: This screen indicates that the recording is in progress ("Running") and will end in 2 hours and 38 minutes.

- 6) During the 12-hour recording, perform your usual daily activities.
- 7) At the end of the 12-hour recording, place the smartwatch on charge.
- 8) Deactivate power-saving mode, ensure the Wi-Fi function is active, and verify that an Internet connection is available.



- 9) Ensure that the screen displayed at the end of the recording matches the one shown below



10) A few minutes after the previous operation, check that the smartwatch is scheduled to begin a new recording session the next day. If so, the screen displayed is as shown below.



11) Wait until the following day to wear the smartwatch and start the recording.

12) Repeat steps 1) through 12) for a total of 7 recording days.

After the recording period, return the smartwatch to the medical staff promptly to receive the results.

Warnings and Information

During the recording, follow these safety guidelines:

- Consult the smartwatch's user instructions. The instructions are available in paper format with the smartwatch and electronically on the Manufacturer's website.
<https://www.samsung.com/cz/support/>
<https://www.samsung.com/cz/support/model/SM-R935FZEAITV/>
https://downloadcenter.samsung.com/content/UM/202308/20230807142929795/Wearable_Safety_information_Rev.1.6_230511.pdf
- Do not give the watch to others and keep it out of reach of children.
- Do not disassemble the device.
- Wear only the device on your wrist. Do not wear other items (such as bracelets) that could collide with the watch during recording.
- If you feel the watch overheating during use, remove it immediately and contact the medical staff.
- Even though the watch is waterproof, do not expose it to water and avoid wearing it while showering or during intense physical activity.
- During the 12-hour recording, try to wear the watch as much as possible for more complete results.
- If the watch gets wet, use a dry cloth and do not use a hairdryer or other heat sources to dry it.
- If you remove the watch from your wrist during the 12-hour recording (e.g., for a shower), you can take the opportunity to charge the watch if the battery level is low.
- Do not place the watch inside appliances (oven, dishwasher, etc.).
- After the recording, clean the watch with a damp cloth or a sanitizing wipe. Do not use solvents or abrasive cleaners.
- Do not subject the watch to impacts, excessive force, or sudden temperature changes.
- Do not wear the watch if you have cuts or injuries on the wrist.
- Immediately remove the watch and contact medical staff if you notice visible damage to the watch, any unexplained changes in its features, or if wearing the watch causes discomfort or unease.
- If the watch drains significantly and turns off during recording, contact the medical staff to receive another watch.
- In case of doubt, contact the medical staff.