NUSHU RESEARCH

EN: User Manual

Version: 2026-04-20

Digital version available for download:

https://magnes.ch/documents/nushu-research/

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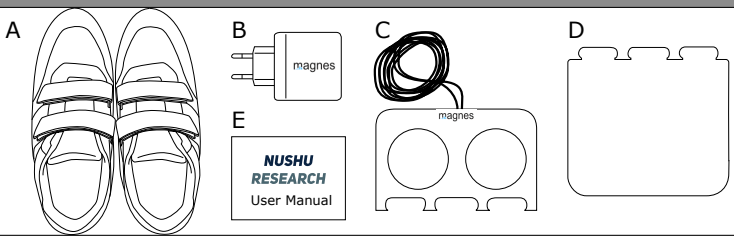

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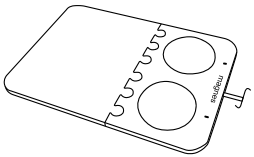

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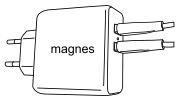

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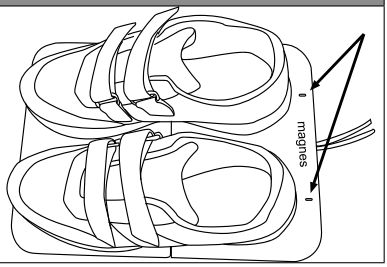

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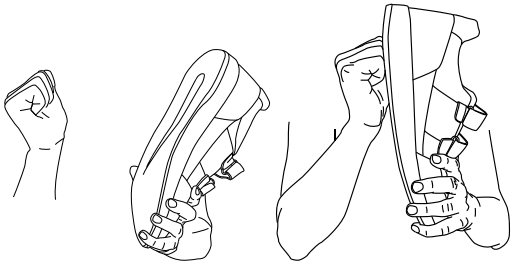

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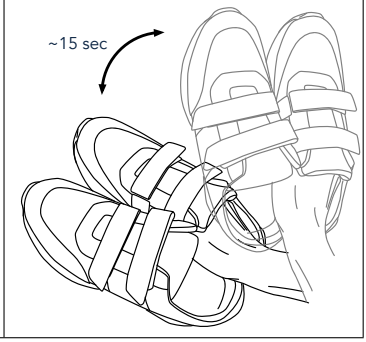

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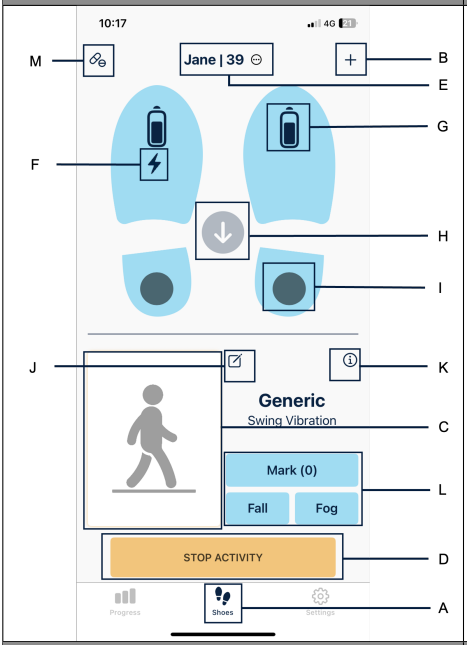
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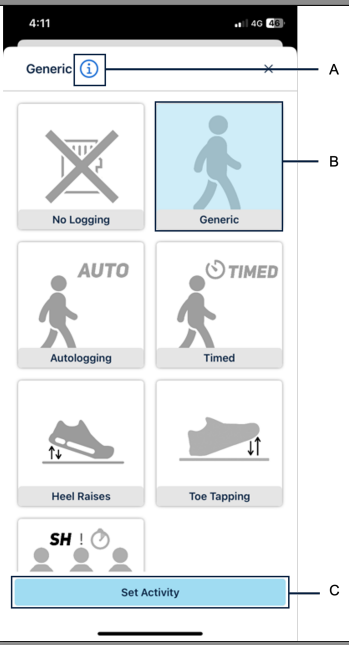
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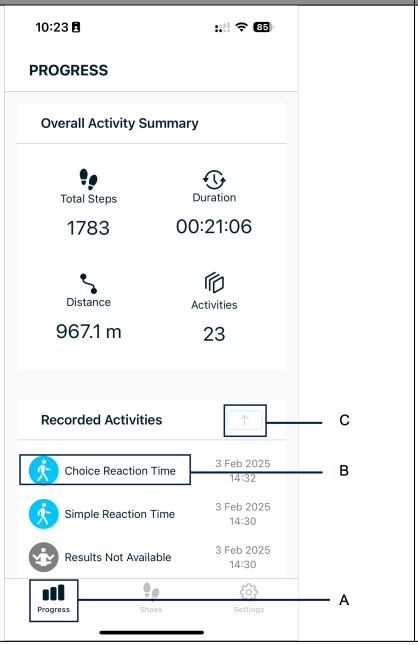
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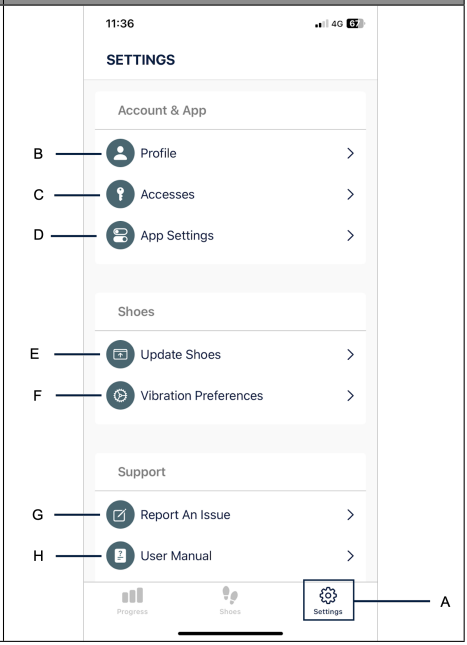
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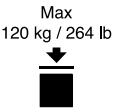
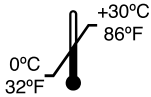
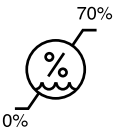
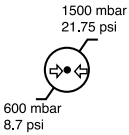
I 	J 	K 	L 
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Contents

1 Support

For the best experience, carefully read and understand this user manual prior to using NUSHU Research.

For any inquiries, please reach out to Magnes.
Email: `support@magnes.ch`

For Europe and rest of the world

Magnes AG, Hardturmstrasse 253, 8005 Zurich, Switzerland.

For USA

Magnes Inc, 2261 Market Street STE 5508, San Francisco, CA 94114, USA.

2 Warnings / Important Notes


Users shall report any serious incident to Magnes AG and the authority having jurisdiction in their locale.


The product is NOT intended to come into contact with bare skin or wounds. Users must wear socks when using NUSHU Research.


Make sure NUSHU Research are charged.


Do not use NUSHU Research while they are charging.


NUSHU Research shall not be exposed to loads exceeding 120 kg (264 lb).


Transport and store NUSHU Research between 0°C (32°F) and 30°C (86°F).


Maximum humidity should not exceed 70%.


Do not leave your NUSHU Research exposed to direct sunlight during storage.


No modification of NUSHU Research is allowed.


Use with caution on slippery and wet floors.


Keep out of the reach of children.


WARNING: Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of NUSHU Research, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.


Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.


WARNING: Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.


It is possible that high levels of interference due to close proximity or due to the power of a source, disrupts the operation of this device. Medical electrical devices require special precautions regarding electromagnetic compatibility and all devices must be installed and put into service in accordance with the information specified in this user manual.


Please keep the shoe box with the label for future reference.

3 Product Description and Intended Use

NUSHU Research is the "Research Use Only" version of Magnes' NUSHU technology. It enables researchers and healthcare providers (HCPs) to collect data on people's gait. NUSHU Research can help people with gait deficits by providing them notifications via vibrations on how they walk to assist normal walking.

NUSHU Research Web Application is intended to be used by researchers and HCPs to visualize and track the walking parameters collected by people using NUSHU Research.

⚠ NUSHU Research may NOT perform as expected if used outside of its intended use.

⚠ NUSHU Research is NOT intended to be used for making diagnostic or therapeutic decisions.

⚠ Please stop using the shoes and talk to your HCP, if using them causes any discomfort.

4 Intended User Profiles and Use Environment

Intended User Profiles

- People wearing NUSHU Research generate data while walking and get notifications by vibrations.
- Researchers and HCPs, who provide NUSHU Research to participants/patients, in order to collect and analyze their gait using the NUSHU Research Web Application.[1]

Intended Use Environment

NUSHU Research can be used indoors and outdoors.

⚠ NUSHU Research is NOT designed for high-impact activities like running or jogging.

⚠ NUSHU Research is NOT designed for water sports. Avoid using NUSHU Research in heavy rain or snow.

5 Setup of NUSHU Research

Before using NUSHU Research footwear for the first time, make sure you have completed the setup and your shoes are fully charged.

5.1 What's in the Box

Your NUSHU Research box includes: (1A) NUSHU Research footwear, (1B) charging adapter, (1C) wireless charging unit, (1D) pad for wireless charging unit, (1E) this user manual.

5.2 System Requirements

The NUSHU Research mobile app is compatible with iPhones or iPads with iOS 17.6 or later.

[1] See the NUSHU Research Web Application user manual for more information.

5.3 Install the NUSHU Research Mobile App

Scan the QR code or go to the Apple Store to download NUSHU Research.

The most recent version of this user manual is also available in the NUSHU Research mobile app.

⚠ Mobile costs may occur when using the NUSHU Research app.

5.4 Log In

Open the NUSHU Research app.

Select **Log In**.

If you already have an account, please enter your email address and your password to log in.

⚠ Make sure to activate your cellular network with internet access or Wi-Fi.

⚠ If you do not have an account, see Section 5.5.

5.5 Create an Account

Select **Create an account**.

Fill in all required fields. Enter your height and weight in either metric or imperial units. Click on **Create** at the bottom of the screen.

Select **Go to Sign in** and continue with Section 5.4 **Log In**.

You need access to your email account to reset your password if needed.

It is also possible to create multiple accounts based on one main email address. Assuming the main email address is nushu@yourcompany.com, register additional accounts as nushu::name1@yourcompany.com (4). This way, multiple accounts can be manged through one main email address.

All emails of that account will be sent to nushu@yourcompany.com (5). To log into that account, ensure to use the full email nushu::name1@yourcompany.com. Email aliasing works across the whole NUSHU platform.

⚠ Make sure to activate your cellular network with internet access or Wi-Fi.

⚠ The email address is shared with Magnes to create your account.

⚠ When using multiple accounts with one email, ensure that the main email account exists and that you have access to it. Access is required to reset the password and for account deletion.

5.6 Charge the Shoes

Assemble the two pieces of the charging unit like a jigsaw puzzle (2A).

Connect the two charging cables to the power adapter (2B). Only use the supplied power adapter.

Place the shoes on the charging station. Each heel should completely cover a round disc on the charging station (2C).

Fully charging the shoes can take up to 6 hours.

LED Light	White	Green
	Status	
SLOW flashing	Charging	Charging
QUICK flashing	NOT Charging	NOT Charging
OFF	Fully Charged	—
ON	—	Fully Charged

⚠ Do not charge the shoes while wearing them.

⚠ If the LED is blinking very fast, the shoes are not positioned correctly onto the charging station.

⚠ For the best experience and to preserve the battery life of the shoes, charge the shoes every night, if you wear them daily. Otherwise, we recommend that you fully charge the shoes at least once a month.

5.7 Turn ON Your Shoes

NUSHU Research shoes can be turned ON by gently shaking them from side to side for at least 15 seconds (3B). The shoes vibrate twice when they power ON.

⚠ If the shoes do NOT vibrate, the battery may be low. Charge the shoes for at least 15 minutes and try again.

⚠ If the shoes do not turn ON, they may be in deep sleep. Follow the instructions on page 19 to wake them up from deep sleep.

5.8 Connect Your Shoes to the Mobile App

In the app, select the + symbol (4B) in the upper right corner of the screen.

Select the correct shoe size. You automatically return to the main menu. If only one shoe connects to the app, a pop-up message appears and the disconnected shoe is marked red.

The shoes will appear as connected on the home screen (4G).

⚠ Make sure to activate Bluetooth on your mobile device.

⚠ If the shoes do NOT appear, they are either switched off or low in battery. Either wake them up and press **Scan For Shoes** or recharge and try again.

5.9 Turn OFF Your Shoes

If connected to the app, turn off your shoes by closing the NUSHU Research app. The shoes will automatically power OFF after 5 minutes of inactivity.

See page 19 for ways to turn OFF your shoes manually.

⚠ Always close the NUSHU Research app to avoid draining your phone's battery.

6 Using NUSHU Research

The home screen indicates the battery level (4G) and if the shoes are charging (**flash symbol**, 4F).

Select the activity tile (4J), scroll and select the desired activity (5B) and confirm with **Set Activity** (5C). For more information click on **(i)** (5A).

Scroll, select the desired vibration mode and confirm with **Set Vibration** (4J). Slide to start the activity and/or vibration (4D).

6.1 App Modes

The app offers two different modes:

Standard Mode Streamlines the app experience by hiding less frequently used functionalities, making it more user-friendly.

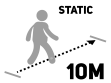
Advanced Mode Unlocks the full range of app features, providing access to all available settings. This primarily impacts the selection of activity types and vibration modes.

To select Advanced Mode, go to **Settings** (7A) and select **App Settings** (7D). Under **App Mode**, select **Advanced**.

6.2 Activities

The following activities are available in Standard Mode.

	No logging	No data will be collected. Select this mode to activate vibration only.
	Generic	Record Generic Activity. Slide to start this mode to collect any walking period. This mode collects walking and non-walking periods continuously.
	Autologging	Record your walk automatically. Slide to start this mode to automatically collect longer walking periods. This mode only collects walking periods and discards non-walking periods.
	Timed Walk	Record custom Timed Walk. Set the duration in minutes. Slide to start the activity and begin walking. The activity will stop automatically once the set time is over as long as the app is kept in the foreground.
	Heel Raises	Record Heel Raises. Stand comfortably and slide to start the activity. You may hold on to a table or similar for support. Begin lifting your heels (either left, right, both simultaneously, or alternating). Perform only one variant per set. Rest for at least 10 seconds between each set. Repeat the process for additional sets or stop the activity.
	Toe Tapping	Record Toe Tapping. Sit comfortably with your feet on the floor. Slide to start the activity and press **Start Session**. Tap either your left or right toes as many times as possible until the countdown is over. Only tap the toes of the same foot during the countdown. Ensure that the heel of the active foot and the opposite resting foot remain on the ground. Record another set or stop the activity.
	Simple Reaction Time	Record Simple Reaction Time. Stand or sit comfortably. Slide to start the activity. Randomly press **Left** or **Right** to make the left or right shoe vibrate for a couple of seconds. Lift the corresponding foot as soon as the vibration ends.
The following activities are only available in Advanced Mode.		
	Timed Up and Go	Record Timed Up and Go. Begin by sitting on a chair. Slide to start the activity. Stand up and walk to the 3-meter mark at your normal pace, turn, walk back, and sit down, then stop the activity.
	6-Minute Walk	Record 6-Minute Walk. Slide to start the activity and begin walking. The activity will stop automatically after 6 minutes, when the countdown is over.

	3-Minute Walk	Record 3-Minute Walk. Slide to start the activity and begin walking. The activity will stop automatically after 3 minutes, when the countdown is over.
	25-Foot Walk	Record 25-Foot Walk. Slide to start the activity and begin walking. Press START at the first mark of the 25 ft course. Press STOP at the second mark. Rest and return, pressing START at the beginning and STOP at the end of the 25 ft course.
	10-Meter Walk	Record 10-Meter Walk. Slide to start the activity. Walk at least 12 meters, then stop the activity. The first 1.5 meters of walking are discarded in the analysis.
	Static 10-Meter Walk	Record Static 10-Meter Walk. Start the activity, walk 10 meters, then stop the activity. The analysis includes the acceleration at the beginning of the 10-meter course.
	Dual-Task 10-Meter Walk	Record Dual-Task 10-Meter Walk. Slide to start the activity. Walk at least 12 meters while counting backwards in steps of 7 starting from 100, then stop the activity. The first 1.5 meters of walking are discarded in the analysis.
	4-Meter Walk	Record 4-Meter Walk. Slide to start the activity. Walk at least 6 meters, then stop the activity. The first 1.5 meters of walking are discarded in the analysis.
	Static 4-Meter Walk	Record Static 4-Meter Walk. Slide to start the activity. Walk 4 meters, then stop the activity. The analysis includes the acceleration at the beginning of the 4-meter course.
	Dual-Task 4-Meter Walk	Record Dual-Task 4-Meter Walk. Slide to start the activity. Walk at least 6 meters while counting backwards in steps of 7 starting from 100, then stop the activity. The first 1.5 meters of walking are discarded in the analysis.
	Posturography	Record Posturography. For your own safety, only perform this activity with the supervision of a healthcare professional. Stand still with your feet closed and slide to start the activity. Remain standing still for 60 seconds with eyes open until the countdown is over. After a 10 seconds break, repeat with eyes closed.

	Choice Reaction Time	Record Choice Reaction Time. Have the person wearing the shoes stand or sit comfortably. Slide to start the activity. Randomly press **Left** or **Right** to make the left or right shoe vibrate briefly. The person wearing the shoes should lift the corresponding foot as soon as they feel the vibration. Ensure they cannot see which shoe will vibrate next.

The activities in the advanced mode are typically done under the supervision of an HCP. Detailed instructions in English only can be retrieved from `https://www.magnes.ch/documents` for the following activities:

- Timed Up and Go
- 25-Foot Walk
- 10-Meter Walk (and its variants)
- Haptic Reaction Time Activities
- Posturography

⚠ For your own safety, only perform posturography under the supervision of an HCP.

6.3 Vibration Modes

The following vibration modes are available in Standard Mode.		
	No Vibration	Use the shoes without vibration .
	Metronome Vibration	Vibrate at regular intervals. The frequency and the preferred side (left, right, both) can be adjusted.
	Swing Vibration	Vibrate when the foot is in the air, from toe off to heel strike (swing phase).
	Swing Plus Vibration	Vibrate when the foot is in the air, from heel off to heel strike (swing phase). Similar to 'Swing Vibration' with an earlier onset.
	Heel Off (HO) Vibration	Vibrate when the foot leaves the ground (heel off).

	Ground Vibration	Vibrate when the shoes are in contact with the ground.
The following vibration modes are only available in Advanced Mode.		
	Motion Vibration	Vibrate whenever the foot moves in any direction.
	Crescendo Vibration	Vibrate with higher intensity the faster the foot moves.
	Heel Strike (HS) Vibration	Vibrate when the foot hits the ground (heel strike).
	HS-HO Vibration	Vibrate when the foot hits the ground (heel strike) and when it leaves the ground (heel off).
	Load Vibration	Vibrate when the load on the heel is higher than a set threshold.
	Unload Vibration	Vibrate when the load on the heel is lower than a set threshold.
	Length Vibration	Vibrate when the detected step length is either longer or shorter than a set threshold, depending on the selected mode.
	Pink Metronome Vibration	Vibrate at semi-regular intervals, where each interval is slightly different. The frequency and the preferred side (left, right, both) can be adjusted.
	Modulation Vibration	Vibrate continuously in a wave-like pattern where the vibration strength smoothly changes between minimum and maximum intensity. The frequency and the preferred side (left, right, both) can be adjusted.

6.4 Set Vibration Preferences

From the home screen, navigate to Settings/Vibration Preferences.

6.4.1 Vibration Intensity

Set your preferred vibration intensity by moving the slider. Click **Start Vibration** to test and **Stop Vibration** to end it. The intensity applies to all vibration modes.

6.4.2 Metronome Variants

Set your preferred vibration frequency (beats per minute) by moving the slider.

Expand the drop-down arrow to set the active side to **Left**, **Right** or **Both**. The default is **Both**.

6.4.3 Length Vibration

Set your preferred vibration length in centimeters. Apply to the other side with **Match Values**.

Set the mode via the drop-down arrow to:
Affirmative The shoes vibrate when you reach your preferred step length.
Corrective The shoes vibrate when your step is shorter than your preferred length.

6.4.4 Load/Unload Vibration

Put on your shoes and connect them to the app. Adjust the sliders to manually change the percentage of weight on a given foot to trigger the vibration. Apply to the other side with **Match Values**.

Click on **Calibrate & Personalize** to calibrate your shoes for optimal use with the Load/Unload Vibration.

Confirm with **Start** in the pop-up message.

Follow the instructions and click **End Calibration** on the calibration screen, once you are done.

6.5 Record Your Activity

To record your activity, slide right (4D). The orange button and two discs in the heels of the shoes indicate that the activity is being recorded.

To take a note for that particular activity, click on the **Take Note** button (4J).

Press **STOP ACTIVITY** to stop the recording (4D).

Depending on the activity, the following buttons appear (4L). Click on the **(i)** (4K) for more information.
Mark Record a generic event
Fall Record a fall event
FOG Record freezing of gait (FOG)
Start Mark the beginning of a course
Stop Mark the end of a course

6.5.1 Heel Raises

Stand comfortably and slide to start the activity. For support, you may hold on to a table or a similar stable surface.

Begin lifting your heels in one of the following ways:

- Both heels simultaneously.
- One heel at a time (left or right).
- Alternating between left and right heels; the movement can be fast (like walking on the spot, without lifting the toes) or slow (one at a time)

Important: Perform only one variation per set.

Take a rest of at least 10 seconds between each set. Repeat the process for additional sets or stop the activity when finished.

 For best results, avoid moving the active foot to the left and right during the activity.

 If you have trouble with balance, hold on for support.

 Keep the tips of your toes always on the ground.

6.5.2 Toe Tapping

Sit comfortably with both feet flat on the ground. Slide to start the activity.

When you are ready, press **Start Session**. A countdown appears.

Tap the toes of either your left or right foot **as many times as possible** until the countdown ends. Repeat with the other foot.

After completing one set with each foot, you can record another set or finish by pressing **STOP ACTIVITY** (4D).

 For best results:

- Perform at least one set with the left and right side (otherwise analysis fails).
- Only tap the toes of the same foot during the countdown.
- Ensure that the heel of the active foot remains on the floor.
- Ensure that the opposite resting foot also remains flat on the floor.

6.5.3 Simple Reaction Time

Stand or sit comfortably. Slide to start the activity (4D).

Randomly press **Left** or **Right** to make the left or right shoe vibrate for a couple of seconds.

Lift the corresponding foot **as soon as the vibration ends**. Repeat until you lifted each foot at least 5 times.

Press **STOP ACTIVITY** to finish (4D).

 The analysis discards responses faster than 50 ms and longer than 1800 ms. It also requires at least 5 valid lifts per foot to be complete.

 If you have trouble with balance, perform this activity in a seated position.

6.6 Download Your Data

The download button **Arrow Down** is located at the center between the two shoes on the home screen (4H).

A counter next to the download button indicates that an activity is available for download. Click the **Arrow Down** to download the recording.

Connect to the Wi-Fi network — it will appear as NUSHU-xxxx.

In the opened view, click the arrow next to the activity or **Download All**. A progress bar indicates the download status.

6.7 Analyze and Manage Your Data

Click on **Progress** in the lower left corner (6A). Allow 5–10 minutes after data upload and the analysis before checking the results.

If the data have not been uploaded automatically, the **arrow button** is enabled (6C), indicating the number of pending activities to be uploaded. Click on the **arrow button** (6C) to upload the activity for analysis. Alternatively, you can swipe down at the top of the **Progress** screen (6A).

Select an individual activity (6B) to see detailed information about it after it has been analyzed.

To see more detailed information, swipe the graph to the left.

To delete an activity, click on **Show More** below the recorded activities. Swipe left and confirm the deletion in the pop-up message.

Your summary of medication intakes (4M) is shown at the bottom of the **Progress** screen (6A).

6.8 Manage Your Account

To view or change your account information, go to **Settings** (7A) and **Profile** (7B).

Tap on the information you would like to change and tap **Update** to save your changes. If your weight and height display different units than when you created your account, adjust your iOS settings.

To delete your account, press **Delete Account**. Enter your password and press **OK** in the pop-up window to confirm the deletion or press **Cancel** to cancel the process.

⚠ Deletion of your account is permanent. If you confirm, all your data will be deleted. You will need to create a new account to keep using NUSHU Research.

6.9 Manage Access to Your Data

To view, add or delete who has access to your data, go to **Settings** (7A) and **Accesses** (7C).

To add a new access, select **Grant New Access**. Scan the QR code that you received from the HCP.[2]

[2]The app requires access to the device's camera to scan the QR code. You are asked to grant access to the camera the first time.

To delete an access, select it, select **Delete** and confirm deletion.

⚠ The app's own access is shown under **App**. Please note, that this includes access to the email you used for creating your account.

⚠ The access **Analyst** is created by default to allow processing of your data and providing the results.

6.10 Update the Shoes

Your shoes are running firmware which is reading the sensors, driving the vibration motors, and handling communication and storage. The firmware can be updated over the air.

Go to **Settings** (7A) and **Update Shoes** (7E).

If a new version is available, press **Update**. The update may take several minutes.

At least 20% of battery is needed to update the shoes.

⚠ Make sure to activate your cellular network with internet access or Wi-Fi.

6.11 Report an Issue

To report an issue or any other feedback, go to **Settings** (7A) and **Report An Issue** (7G).

Type in your message and press **Submit** to send your report to Magnes.

6.12 Additional Shoe Controls (Quick Actions)

Tap on **name | shoe size** at the top of the screen (4E) for the following quick actions:

Sync This setting allows you to manually upload the real-time parameters from the shoes for analysis.
Reboot This setting turns your shoes off and immediately on again.
Sleep This setting puts your shoes into sleep mode. To wake them up, gently shake them from side to side for at least 15 seconds (see page 10).
Deep Sleep This setting puts your shoes into deep sleep mode, making them less likely to wake up while traveling. To wake them up, firmly tap the heels of your shoes (see below).
Reset Shoes This setting restores the shoes to default settings. It may help if you experience faulty behavior of your shoes or trouble downloading data.

6.12.1 Wake Up the Shoes from Deep Sleep

To wake up the shoes from deep sleep mode, follow these steps:

1. Hold one shoe upright with the heel on top. Strongly hit your fist against the sole of the shoe to turn it ON (3A). If this is too difficult or the shoe does not turn ON, you can also hold the shoe at the front and hit the heel of the shoe on the floor. One tap at a time is enough, wait for 10–15 seconds.
2. The shoe vibrates twice as soon as it turns ON. If the shoe does not vibrate, tap again. Repeat with the second shoe.

If the shoes do NOT vibrate, the battery may be low. Charge the shoes for at least 15 minutes and try again.

The shoes go back to deep sleep if no connection is established within 2 minutes from wakeup.

6.13 Cleaning and Maintenance

Clean the NUSHU Research shoes regularly. Remove any dirt with a damp cloth (dampen cloth with ambient temperature tap water) and let them air dry. Spray the inside of the shoes with a shoe disinfectant after each use, if multiple users are using the shoe.

Do not use any detergents. Do not machine wash. Do not use sharp utensils. Do not dry shoes in direct sunlight, oven, and/or microwave.

The maintenance of NUSHU Research must not be carried out by the user. In case of a malfunction, please contact the distributor or the manufacturer (see page 6).

Device contains a Lithium-Ion battery. Dispose the device in accordance with EC Directive – WEEE (Waste Electrical and Electronic Equipment).

7 Troubleshooting

Problem	Cause	Action
Shoes not detected	Bluetooth inactive on mobile device	Turn on Bluetooth on your mobile device. Also ensure that Bluetooth is permitted in the app settings of your phone for the NUSHU Research app.
Shoes not detected	Battery is empty	Fully charge your shoes.
Shoes not detected	Electromagnetic interference	Try using your shoes in a place free of other Bluetooth and wireless devices.
Shoes do not connect	Shoes in sleep mode	Shake the shoes side to side for 15 seconds to wake them up (see page 10).
Shoes do not wake up	Shoes in deep sleep mode	Strongly tap the heel of the shoe against your hand or fist and wait for 10–15 seconds (see page 19).
Activities cannot be collected	No local network connection	Ensure that Local Network is permitted in the app settings of your phone for the NUSHU Research app.
Data not uploaded to database	No or bad internet connection	If data was downloaded from the shoes, they will be saved under **Progress** (6A), under **Recorded Activities**. Check mobile data or Wi-Fi internet connection.
Server cannot be reached	No or bad internet connection	Check mobile data or Wi-Fi internet connection.
Data download is not responding	Connection issue, no local network permission	Disconnect from the local network and try to download again (see page 18). If the problem persists, reboot the shoes (see page 19). Ensure that Local Network is permitted in the app settings of your phone for the NUSHU Research app.
Results are not analyzed	Results were not fetched	Make sure to have internet connection and that at least 5 minutes have passed from uploading the data. Go to **Progress** (6A) and swipe down to refresh the page.
Cannot connect to the NUSHU-xxxx network	Connection issue	Retry to connect. If the problem persists, try one of the following: close the app completely and reopen it, reboot the shoes (see page 19) and/or check if they are up-to-date (see page 19).
Profile data are not shown correctly	Connection issue	Logout and close the app completely. Then try again. Ensure internet connection.

Problem	Cause	Action
Limited functionality available	Firewall blockage	The firewall of your institute can prevent some functionalities of the app. Make sure your IT department allows NUSHU Research to access the Wi-Fi without firewall blockage.
Cannot scan QR code	Camera access permission not granted to app, QR code settings of phones	Check if QR code reading is activated in your general device settings. Ensure that camera is permitted in the app settings of your device for the NUSHU Research app.
Firmware update does not start	No local network permission	Ensure that Local Network is permitted in the app settings of your phone for the NUSHU Research app.
App is not in my language	Incorrect language settings	Ensure that your preferred language is selected in the app settings of your phone for the NUSHU Research app. If your preferred language is not available, the default language is selected automatically.

8 Regulatory and Safety Notices

8.1 FCC Compliance Statement

This device complies with Part 15 of the Federal Communications Commission (FCC) Rules.

Model: NUSHU X
FCC ID: 2BDTE-NUSHU1V1

Operation is subject to the following conditions:

1. This device may not cause harmful interference and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

8.1.1 FCC Warning

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Users reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

8.2 EU Declaration of Conformity

Hereby, Magnes AG declares that the product NUSHU Research is in compliance with 2014/30/EU Electromagnetic Compatibility Directive. The full text of the EU declaration of conformity is available at the following internet address:

`https://backoffice-main.magnes.ch/wp-content/uploads/2024/03/nushu-x-declaration-of-confirmity.pdf`

9 Warranty

NUSHU Research has a limited warranty of 2 years from the date of purchase. During the warranty period, should this product prove to be incomplete or defective in functionality in accordance with the provisions given in the user manual, Magnes AG shall carry out a repair or a replacement delivery free of charge. The warranty covers manufacturing defects and DOA (dead on arrival) cases. Defect products shall be returned to the return address specified below for further inspection. In no case shall the user modify the devices in any way (or even just try to do so). Any such action will void the warranty. Instances of force majeure are beyond the scope of this warranty. For disputes, Swiss law shall apply.

Return address: See page 6.

The following are explicitly excluded from this warranty:

- Deterioration due to normal use or consumption of the product.
- Accessories supplied with the product which are worn out or used up through proper use (e.g., shoes, rechargeable batteries).
- Products that are stored, used, or cleaned improperly or contrary to the provisions of the user manual.
- Products modified or repaired by the customer or by a service center not authorized by Magnes AG.
- Products that are damaged during shipping between manufacturer/service center and customer

Subject to change without notice.

10 Technical Specifications

NUSHU Research	Lifetime	24 months
	Gait events accuracy	Heel Off, Flat Foot: 36 ms Toe Off, Heel Strike: 8 ms
	Gait parameters	Gait velocity: 0.06 m/s
	Power supply/capacity	Li-ion battery 3.7 V, 750 mAh IEC 62133-2:2017
	Storage capacity	32 GB (~ 600 h of data recordings)
	Wireless communication	BLE IEEE 802.11b/g/n (Wi-Fi)
	Wireless connection power	BLE: 3 dBm Wi-Fi: 19.5 dBm
	Battery charging rate	Regular: 260 mA Precharge (low voltage): 52 mA
	Unit weight	40 g for each side
	Water and dust proof rating	IP22 Protection against objects and particles > 12.5 mm and dripping water when tilted at 15°.
	CE	The device conforms with the European health, safety, and environmental protections standards.
	FC	Contains FCC-ID: 2BDTE-NUSHU1V1
Charging Station	Mains voltage	110 – 240 V at 50 – 60 Hz
	Valid inputs	5 V/3.0 A I 9 V/2.0 A I 12 V/1.5 A
	Output power	15 W each pad – 30 W total
	Compatible wireless charging standard	Qi

11 Explanation of Symbols Used

8A	Important safety or operating instructions	8B	Read the user manual
8C	Do not dispose in household waste	8D	Serial number
8E	European conformity	8F	Federal communication commission
8G	Dust- and water-proof rating	8H	Keep away from rain
8I	Maximal applicable load	8J	Transport and storage temperature
8K	Humidity limitation	8L	Atmospheric pressure limitation
8M	Manufacturer	8N	Battery disposal information
8O	Mains electricity is double insulated	8P	Indoor use only
8Q	Keep out of reach of children		