



platoscience
neurostimulation

PlatoWork Manual

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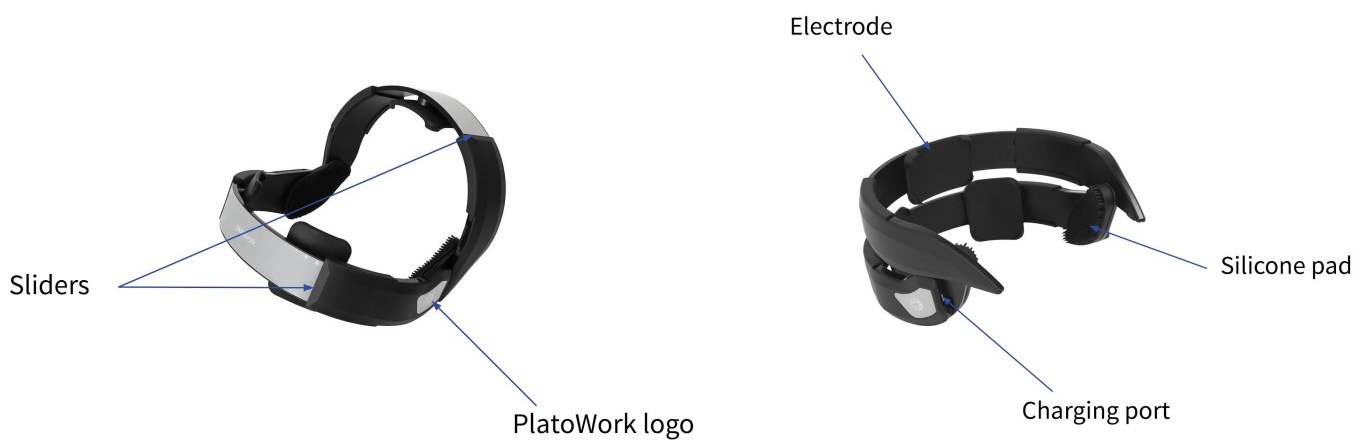
| | |
|--|-----------|
| Getting started | 3 |
| Your PlatoWork | 3 |
| Prepare the Essentials | 4 |
| Start a neurostimulation session | 5 |
| Step by step | 5 |
| Using the PlatoWork headset | 6 |
| Ensuring good contact | 6 |
| Select mode | 6 |
| Red marks under the electrodes | 6 |
| Adjusting the intensity slider | 6 |
| Headset light indicators | 7 |
| Sleep mode | 7 |
| Customization | 7 |
| Forum and communication | 7 |
| Maintaining the headset | 8 |
| After each use: | 8 |
| After every 5 sessions or when needed: | 8 |
| When sponges get worn out: | 8 |
| When the water bottle is empty: | 8 |
| Troubleshooting | 9 |
| I cannot turn on the PlatoWork headset | 9 |
| I cannot get the PlatoWork headset to connect to my phone | 9 |
| I cannot get past the electrode test | 9 |
| I have red marks under the electrodes after stimulation, is this normal? | 9 |
| I feel an itch when using the PlatoWork headset | 9 |
| I wear glasses - can I use PlatoWork? | 10 |
| What if I have really thick hair? | 10 |
| What's in the box | 11 |
| The three white sponges | 11 |
| What's in the bottle? | 11 |
| Charging the battery with the USB cable | 11 |
| The Paper thin sponges | 11 |
| The Case | 11 |
| Additional information | 12 |
| General tips for neurostimulation | 12 |
| The effect | 12 |

| | |
|---|-----------|
| Why should I not take the headset off during use? | 12 |
| Why maximum 30 minutes per day? | 12 |
| Disclaimer of responsibility | 13 |

Getting started

Download the PlatoWork app here: platoscience.com/app

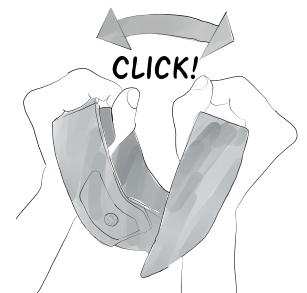
Your PlatoWork



Turning on PlatoWork

To turn on your PlatoWork, simply unfold the headset. To turn it off, collapse the headset again. You will know the headset is open and ON when you hear the “CLICK” sound and when the PlatoWork logo on the side of the headset starts blinking blue.

Once PlatoWork is turned on and the PlatoWork App is open, the app will automatically connect to your headset. There is no need to go into your phone settings for bluetooth pairing.



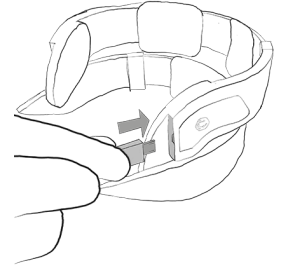
Sleep mode

After 20 minutes of not using PlatoWork, the headset will go into sleep mode, and turn off to save energy. To turn it on again, simply close and reopen PlatoWork.

Charging the headset

When you receive PlatoWork, the built-in battery is already charged.

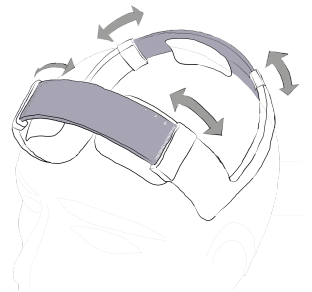
The app will indicate when your headset needs charging. You can find the charging port on the side, which is only accessible when you collapse the headset. Connect the cable that is present in the box and the other end to any USB port.



A small green light next to the charging port will indicate that the battery is recharging. The light will turn off when the battery is fully charged. Recharging a flat battery will take approximately 1 hour.

Sliders

The grey areas of PlatoWork have four adjustable sliders, which can be adjusted to fit your head size. The sliders are each marked with I II III IIIIIII to indicate from smallest to largest head size.



Prepare the Essentials

Salt water:

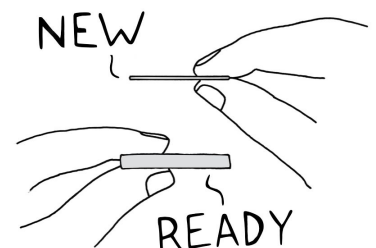
You will need to make sure that the bottle provided is filled with salt water. To make the salt water, remove the screw cap and fill the bottle with potable water. Then, fill the top lid of the screw cap with regular kitchen salt and add it to the water.



The salt water helps ensure good contact between the electrodes and your head. For the salt water to have an effect, it needs to have at least 0.5g per 100ml (volume of provided bottle). If you prefer, you can purchase standard saline water.

Sponges

The sponges provided are compressed and need to be hydrated before use. Moisten three dry sponges (1 mm thickness) with the salt water until they are fully expanded (5 mm thickness).



Tip: Fill the sponges' case with salt water and dip the dry sponge in it.



Start a neurostimulation session

Now that you are familiar with PlatoWork and you have prepared the essentials you are ready to start a neurostimulation session.

As with most new devices, it might take some attempts to find the right fit and get the first session going. As you become familiar with your PlatoWork headset, setting up gets easier and easier.

We recommend starting with the “Learn” mode on your app, for your first session. Our users have found that this mode gives the best first time experience.

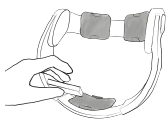
Step by step



1. **Activate** the headset by simply unfolding it (it will make a 'click' sound when it's fully opened). When the headset is turned on, the logo on the left side of the headset will blink blue.



2. **Connect.** Open the PlatoWork App, and the headset will automatically connect with your phone (make sure your phone's bluetooth is turned on). The logo on the headset will turn from blinking blue to solid blue once it is connected.



3. **Place the sponges.** Make sure that the sponges are fully moist with salt water, but not dripping wet. Place a sponge in each of the three black electrodes.



4. **Put the headset on.** Make sure that the two silicone pads are placed right above the ears, and that you have two sponges in the front and one in the back. Use four fingers to measure the distance between the centre of your eyebrows and the bottom of the two front sponges to ensure that the headset is correctly placed.



5. **Ensure headset fit.** For the headset to work, it has to sit tightly on your head so all three sponges are firmly pressed against your skull. If the headset feels too loose, adjust the sliders to obtain a tight fit between the sponges and your head.



6. **Select mode.** When you have ensured a good headset fit, select your stimulation mode in the app. When starting the session, the app will first test that the headset has sufficient contact to your head. When the test is successful, you can put your phone away and begin your task.

Using the PlatoWork headset

Important

Never take the headset off or adjust it during an active session, as this could lead to a short but uncomfortable 'sting' under the active electrodes ([more info below](#)).

Keep the usage to a maximum of one full session, or 30 minutes total, per day per user ([more info below](#)).

Ensuring good contact

For neurostimulation to work, the electrodes need to have good contact to the head. Good contact is ensured by a combination of 1. Wet sponges, 2. Pressure, and 3. Sponge surface touching the head. When starting a session, the headset will test if the relevant electrodes have a sufficient contact, and ask you to improve contact if they don't. If asked to improve the contact by adjusting the headset, please make sure that:

1. The sponges are moist.
2. The headset is fitted tightly to your head.
3. The angle of the electrodes is aligned with your head so the whole surface of the sponge is touching the head.
4. There is not too much dry hair directly underneath the electrodes.

Tip: If you are having trouble, look at the instructions in the [Getting Started](#) section and try adjusting the headset again.

Select mode

In the app you need to choose between four modes: Learn, Create, Concentrate and Rethink. You have to decide if you need to *focus* on a task at hand or *create* new ideas. We suggest you try out each mode with different tasks to figure out what works best for you.

Red marks under the electrodes

Some users experience temporary red marks on the skin under the electrodes after stimulation; this is normal and always disappear again quickly after the session. The marks are caused by a combination of heat, current and the salt water used to moist the sponges. These marks can be reduced by rinsing the sponges under running tap water often, thereby lessening the amount of salt building up in the electrodes.

Adjusting the intensity slider

During stimulation, the app offers a slider to adjust the intensity of the stimulation. The slider is there to enable users to adjust the sensation on the skin under the electrodes to their pain

tolerance, as the same current might be experienced differently from user to user. The relationship between the intensity slider and the effect of the stimulation is not linear, so feel free to adjust up or down as you prefer.

If the current feels too intense on the skin in the beginning, you can always turn the intensity down step by step to find a comfortable level. Normally the sensitivity of the skin is reduced during a session, so after 5-7 minutes you can try to turn the intensity back up and see how it feels.

Headset light indicators

- Blue - blinking: Awaiting connection with Bluetooth
- Blue: Connected via Bluetooth
- Green - blinking: Testing electrode connection
- Green - slowly pulsating: Ongoing session
- No light : closed headset or sleep mode

Sleep mode

If the headset is open (and thus turned on) but not in use for 20 minutes, it will enter sleep mode to save battery. To wake it up from sleep mode, simply close and reopen the headset.

Customization

A big part of our ambition with this project has to do with analyzing usage data, to personalize the stimulation protocols for each user. This will require a large amount of data, and you can help us by entering a bit more information about yourself in the Customization section of the app.

Forum and communication

We are developing a closed user forum for all PlatoWork users, where we can all share our experiences and discuss topics related to neurostimulation. You will receive an invitation by email when the forum is finalized. In the meantime, feel free to send us feedback either through the app or [email](#).

Maintaining the headset

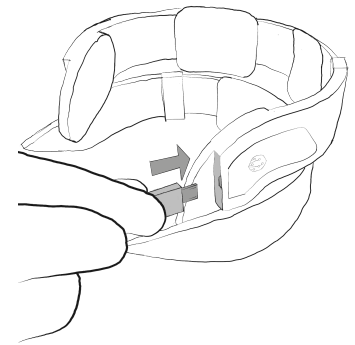
After each use:

Take out the sponges from the headset and keep them in the plastic casing to keep the sponges moist - and the electronics dry.

After every 5 sessions or when needed:

Charge the headset with the provided USB cable. The battery should last for more than 10 sessions, but we recommend you to charge it more often, so that you can be sure your headset works when you need it and all the way through your session.

Rinse the sponges under running lukewarm tap water. Before next usage, they need to be moistened with salt water from the bottle.



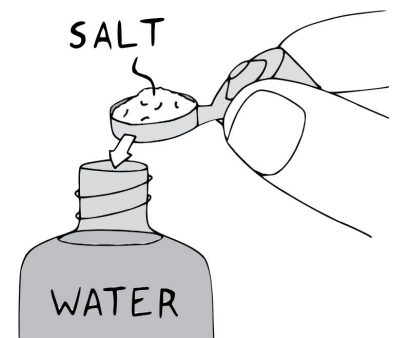
When sponges get worn out:

Your sponges can last for many (100+) sessions if treated correctly. But if they begin to get worn out and having serious miscolours, simply take three new replacement sponges from the pocket in the casing. They look like paper, but will expand into sponges when water is added.

When the water bottle is empty:

The salt water in the bottle is normal water with a very weak concentration of normal kitchen salt. You can easily refill it yourself:

1. Remove the screw cap and fill the bottle with potable water.
2. Fill the top lip of the screw cap with regular kitchen salt and add it to the salt water.
3. Shake the mixture.





Troubleshooting

I cannot turn on the PlatoWork headset

Gently fold PlatoWork and reopen it. PlatoWork turns ON automatically once you open it and hear the “click” sound.

The headset goes into sleep mode if it is not used for more than 5 minutes. Also make sure your phone’s bluetooth is on or try to recharge the headset for 1 minute.

I cannot get the PlatoWork headset to connect to my phone

Try the following steps:

1. Open the app and initiate a stimulation session. If there is no connection, the app will show an error here.
2. Ensure that your phone’s Bluetooth is turned on.
3. Go to App Store and download the newest version of the PlatoWork app.

I cannot get past the electrode test

This problem is caused by insufficient contact between the headset electrodes and your skin. Try to follow the Getting Started instructions again to ensure proper contact.

Things you can do:

1. Readjust the headset so it is fitted tightly to your head.
2. The angle of the electrodes are aligned with your head so the whole surface of the sponge is touching the head.
3. Make sure the sponges are sufficiently moist.
4. Check your bluetooth is on.
5. There is not too much dry hair directly underneath the electrodes.

If you are still having trouble, try to lay a hand on the front of the headset and press it gently inwards against your forehead. Still having trouble? Please [contact us](#) and we will do our best to help you.

I have red marks under the electrodes after stimulation, is this normal?

Some users experience temporary red marks under the electrodes after stimulation; this is normal and always disappear again quickly after the session. The marks are caused by a combination of heat, current and the salt water used to moist the sponges. These marks can be reduced by rinsing the sponges under running tap water often, thereby lessening the amount of salt building up in the electrodes.

I feel an itch when using the PlatoWork headset

This feeling is quite normal and caused by individual levels of skin sensitivity. If you experience an itching sensation while running a session, try to lower the intensity or add more water to the sponges. Your skin will most likely adjust to this sensation if you use the headset.

Most users don’t even notice this after getting familiar with the headset.

I wear glasses - can I use PlatoWork?

PlatoWork is fixed just above the ears and can be worn with most types of glasses.

What if I have really thick hair?

Very thick hair, or big curls, can be a challenge but is not a deal breaker. Usually the problem can be solved by adding more salt water to the sponges.



What's in the box

The three white sponges

The purpose of the sponges is to ensure good contact between the headset and the skin.

- **Detach:** Store the sponges in the plastic casing to keep them moist - and the headset dry.
- **Rinse:** After about every 5 sessions, rinse the sponges under running lukewarm tap water. Before next usage they need to be moistened with salt water from the bottle.
- **Replace:** If the sponges wear out (get too thin, stop holding water, get dirty etc.) there are reserve sponges in a small plastic bag in the pocket of the headset case. They look like paper, but can be expanded into sponges under running tap water.

What's in the bottle?

The bottle contains a salt water solution, used to moist the white sponges before a session. The amount of salt is important: too little salt and there'll be bad contact between the electrodes and the skin, too much salt can cause irritations on the skin. When bottle is emptied you can easily refill it yourself by following these [instructions](#).

Charging the battery with the USB cable

The provided USB-cable is for charging the headset. The headset runs on an internal lithium ion battery, which lasts for ≈10 sessions with normal headset connection. On the home screen of the app you can see the battery status, and whether it is enough for one session. If it gets too low, you can charge the device using the cable provided in the headset case or any other standard micro USB cable. Collapse the headset, and insert the micro-USB into the headset on the left side. The other end of the cable is a regular USB, and will fit any USB port. There is a green light indicator next to the USB, when the device is charging, and the indicator will turn off when the battery is fully charged.

The Paper thin sponges

In the plastic case provided, you will have three paper thin sponges and a small plastic bag with three replacement sponges (these are reserve sponges for later use when you have worn the current sponges out and they are discolored).

The Case

PlatoWork is provided with a black case for protecting the headset and having a place to keep the headset together with its accessories. The casing can resist rough handling and is water resistant. This should be sufficient for normal use.

Additional information

General tips for neurostimulation

When you get to know the headset, you will learn how the various modes work for you. All brains are different, so it is impossible to predict the exact effects for each user. We encourage you to try the modes for different tasks and see what works for you. Some modes can give a mild effect, while others can give a quite strong cognitive sensation. In general, try to avoid focusing too much on the fact that you're being stimulated, and rather find a relevant task to work on during the stimulation. Feel free to combine all four modes, but from our experience we have found that a creative mode quickly followed by a focus mode (or vice versa) will neutralize the effects.

The effect

While tDCS is a well proven technology, the experience varies from person to person and depends on the state of mind you are in while using it.

A stimulation session lasts for 30 minutes and the effect will appear slowly after 3-5 minutes. After the session ends, the effect will last for approximately 1 hour, but this is very individual. In the app you have the possibility to send us feedback about your experience with the stimulation. Please use this opportunity and help us improve your neurostimulation experience.

Why should I not take the headset off during use?

Never take the headset off or adjust it during an active session, as this could lead to a small but uncomfortable 'sting' under the active electrodes. The explanation is simple: A rapid change in current can be uncomfortable to the skin, and taking the headset off, moving it, lifting and putting it back on, etc. will potentially cause an immediate change in the current reaching the skin. This is not dangerous but can be a bit painful, and/or give the sensation of a sting and sometimes a small visual flash.

Why maximum 30 minutes per day?

For safety reasons we ask all users to keep the usage to a maximum of one full session, or 30 minutes total, per day per user. There are no reports of negative effects caused by longer usage, but there are also no rigorous longitudinal studies of potential negative effects of 30+ minutes stimulation.

Disclaimer of responsibility

To the fullest extent permitted by law, PlatoScience shall not be liable to any person for any loss or damage which may arise from the use or misuse of the product(s), including death or personal injury resulting from negligence, fraud or deceit, beyond defective parts or flaws that occur due to problems in the manufacture.

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- In the event the product(s) is damaged because the user has disassembled, repaired, or modified it in such way as is not explained in this product manual.
- In the event the product(s) is damaged by a third party.
- In the event the product(s) is damaged due to a force majeure event, including but not limited to fire, flood, earthquake, storm, hurricane or other natural disaster.
- In the event the surface of the product(s) is damaged by use.

