PlatoWork Manual

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Getting started

- Download the PlatoWork app here: platoscience.com/app
- Follow the instructions in the app,

or follow the instructions below:

1. **Activate the headset by simply unfolding it** (it will make a ‘click’ sound when it’s fully opened). To turn it off, collapse the headset again (requires a gentle push on the two bows). When the headset is turned on the logo on the left side of the headset will light up.

2. **Find the sliders.** The sliders are marked with I II III IIIIIII and symbolise the size settings of the headset. Try to pre-adjust it to your head size.

3. **Prepare the three white sponges** by soaking them with the with salt water from the water bottle provided, and install them in the black electrode holders. Make sure that the sponges are fully moist, but not dripping wet. A teaspoon of water for each sponge should be sufficient. The amount of moisture needed in the sponges is individual, but mainly depends on the amount of hair underneath the sponges.

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.

5. **Adjust the headset to the right position.** There should be at least three fingers distance between your eyebrows and the bottom of the two front sponges.

   Tip: There should be as little hair under the sponges as possible to secure good contact.

6. **Adjust the sliders to your head size.** Adjust the sliders to obtain a tight fit between the sponges and the skin.

7. **Ready?** When you have done all of the above you are ready to open the app and select your stimulation mode. Before you can start a session, the headset will do a test to make sure everything is in place and to secure a good stimulation.

   **Can’t get the headset to connect with the app?** Try pressing the logo on the left side of the headset to “wake it up”. 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.
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 maximum of two full sessions, 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 adjust the headset, please make sure that:

1. The sponges are soaked.
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 Focus 1 and Focus 2 or Create 1 and Create 2. You have to decide if you need to Focus on a task at hand or Create new ideas. The 1 and 2 modes are different variants. Try them to figure out what works best for you.

**Red marks under the electrodes**

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.

**Adjusting the intensity slider**

During stimulation, the app offers a slider to adjust intensity of the stimulation. This 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 it feels too strong on the skin in the beginning, then 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, but open headset: Sleep mode

**Sleep mode**

If the headset is open (and thus turned on) but not in use for 5 minutes, it will enter sleep mode to save battery. To awake it from sleep mode firmly press the logo where the light would normally be.

**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 directly to me.
Maintaining the headset

After each use:
Take the sponges off and keep them in the plastic casing to keep the sponges moist - and the electronics dry.

After every 5 sessions or when needed:
Charge 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. 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 miscolors, simply take three new replacement sponges from pocket in the casing. They look like paper, but will expand into sponges under running tap water. They can be used right away but let them dry for a day before placing the new sponges in the plastic casing.

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. Cover the bottom of the bottle with a very thin layer of normal kitchen salt (under 0.5 gram of salt). The top of the rounded bottom should stick out.
2. Fill the bottle with lukewarm water and shake to mix.
Troubleshooting

I cannot turn on the PlatoWork headset
Try the following steps:
1. Ensure that the headset is fully opened and that the joints are fitted together. Opening the headset activates the power button.
2. Press the logo on the left side to wake the headset from sleep mode.
3. Recharge the headset for half an hour.

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. 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 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 more frequently. Most users don’t even notice this after getting familiar with the headset.
What's in the box

The three white sponges
The purpose of the sponges is to ensuring 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 electrodes and skin, too much salt can cause irritations on the skin. When bottle is emptied you can easily refill it yourself. You can find the instruction

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'll be 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 two small plastic bags there should be three paper thin sponges in each. This bags are found in the pocket in the headset case. These are reserve sponges for later use, when you have worn the current sponges out and they are discolored. Take the new paper thin sponges and hold them under a running tap for them to fully expand. They can be used directly but should dry for a day before placing them in the plastic casing.

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 some 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 stimulation. Feel free to combine all four modes, but our experience is, that a Create 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 15 minutes and the effect will appear slowly after 5 minutes before reaching its full strength after 15 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.

Changing between modes
We recommend at least 1 hour break in between stimulating with Focus and Create.
The different modes are designed to increase the activity in one specific area of the brain and to decrease it in another. Running two different modes after each other will simply neutralize the effect.

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 two full sessions, 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.