

#### **AXON 2 FREQUENTLY ASKED QUESTIONS**

#### **Neurofeedback training**

Can I close my e	yes
during training	
sessions?	

No. Please keep your eyes open during the training blocks. The alpha frequency that is being upregulated is a visual system frequency and so it is blocked by opening your eyes. When you close your eyes, you may think the game is working better, but this is not the case. It will be training a completely different part of the brain that is not associated with chronic pain.

Neurofeedback works through visual and audio reinforcement, so it is important that you train with your eyes open to benefit from the treatment. In the first few weeks you may feel quite tired when you train, and this is natural because you are changing your brain activity.

If you feel tired during the session, you may close your eyes during the rest break, and when you feel ready, proceed with the next training block with your eyes open.

# Where am I supposed to look while doing the training?

Please look at the screen while you are training. You have a few options for how you interact with games, and it is best to find the strategy that enables you to relax the most. For example, you can watch the whole screen (like watching TV) and just adopt a defocused approach.

Alternatively, you can choose to focus on one aspect of the game, such as the alpha bar, or a point on the screen.

Please do not look away from the screen (e.g. at the wall) or close your eyes, because you won't then benefit from the visual feedback of the game, and this will reduce the efficacy of the treatment.

## How do the games work?

When you are relaxed, the game will progress and you will be rewarded with visual and audio feedback, encouraging the neurons in your brain to fire more often in the frequency associated with less pain. Over time, your brain can change the way it processes conditions such as pain, anxiety, and stress, by spending more time in frequencies associated with calm relaxed focus.

Different people find their own strategies for a successful session. For example, you may find that a state akin to daydreaming works, or perhaps thinking happy thoughts. Whatever strategy works for you will be the right one!

Remember, the aim is for a relaxed state of mind, a relaxed body, and regular breathing, so that your brain is able to optimise itself. The important thing is to relax, keep your eyes open, try not to move too much, and let the game progress.

# What if I feel I am not actively involved with the game I am playing?

The Axon games work best when you are in a relaxed state. The reason why the Axon games do not feel 'active', is because these brain processes are unconscious, and so you will not be aware of your brain activity, except when you view the screen and see the game working.

Different people respond differently to each of the games. Please try all the games and choose the one that suits you best and you feel is the most relaxing to play.

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Which game should I play?	When you begin each session, you will be prompted to choose a game. Once you have chosen a game, you cannot change it within that session. In the first few weeks of the treatment, you might like to try each of the games, as they are all slightly different.
	Once you have selected the game that makes you feel most relaxed and happy, stick with that game for the first few weeks while you get used to neurofeedback. Then, if you wish to change games, you can switch and try another. Your choice of favourite game may change over your training period, as your brain changes. There is no right or wrong choice. The important point is to play the game that makes you feel most relaxed, calm, and happy.
	Research has shown that neurofeedback works better if the person taking part enjoys the experience, so in order to get the best results, play the game you like the most on any day.
When is the best time to do a training session?	You should do your training when you are feeling alert, if possible. This will give your brain the best chance of upregulating the desired frequency band. If you are too tired, then your session performance will be affected.
	Some people prefer to train first thing in the morning and then get on with their day, whereas others prefer to train in the evening as part of their winding down routine before bed. There's no right or wrong time to do a session. You will find the best time for your lifestyle, as long as you are able to complete the session without falling asleep or rushing.
Where is the best place to do a training session?	You should train in a comfortable, quiet location where you can relax and not be disturbed, such as on your lounge or in a comfortable chair. Make sure you are not too close to any electrical equipment, such as air conditioning units or large appliances, as this can interfere with the headset.
	The tablet should be <b>at eye level</b> so that you are not looking down or straining your neck, which can interfere with the EEG recording and the fitment of the headset. Make sure you have some water nearby to sip during the rest breaks.
What should I be thinking about during a training session?	During neurofeedback training it is important to relax and let your thoughts go. If you start thinking too hard or try to 'make' the game work, then other parts of your brain will become activated and, ironically, the game will not work.
	The game will work best when you are relaxed and not thinking of anything in particular – a bit like when you daydream. If you need to write down any thoughts, please do so during the rest break, so you find it easier to clear your mind for the next training block. After a while you will find it easier to get into the optimal state of relaxation (flow state), and less thoughts will occur during sessions, as your brain learns to enter flow state more quickly.
What if I forget to train?	If you forget to train, then set yourself a reminder for the following day. It is important to do 5-6 sessions a week for your initial treatment to get the best results. It might be helpful to choose which days every week you would like to train and then put a reminder in your calendar.



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Why is it important to do 5-6 sessions a week?	It is important that you train as frequently as you can, as this will give your brain the best chance of changing over the long term. However, it's always good to have a day off every week just to give your brain a rest.
Why do I feel tired sometimes during training?	It is completely normal to feel tired after completing a session.  Neurofeedback training is like a workout for the brain. A bit like when you go to the gym and your muscles are sore afterwards, when you first start to learn a new skill (such as brain training) your brain will be working harder. This means that more neurons are activating, and your brain is using more energy (glucose) to make new connections.  It is important that you <b>keep your eyes open</b> during training blocks. If you feel sleepy during a session you can close your eyes during the rest block and open them again when you feel ready to start the next training block.  Neurofeedback causes the brain to change, and these changes are consolidated while you sleep. You may notice that you feel tired after a session during the early stages of your treatment, and while your brain learns how to adjust to neurofeedback. After a while it will become second nature and you may not feel so tired afterwards.
What is Neuroplasticity and why is it important?	When you experience an issue (e.g. pain), the brain changes to protect you from harm. In the short term this is helpful, but over time your brain can become overstimulated and hypersensitive to internal sensations and environmental triggers. Over time, your brain will start to rewire itself, and eventually it may get stuck in a loop, like a broken record, and this can create long lasting changes in the brain. This is a process known as neuroplasticity.  Neurofeedback training uses the same process of neuroplasticity to rewire your brain into a more optimal way of perceiving sensations and reacting to external situations. As you perform more training sessions, your brain will begin to respond differently, as your neurons start to fire in different patterns.  Neurofeedback training can reverse the neuroplastic changes that occurred and redirect your brain back to an optimal function. This can cause long lasting positive changes in your condition.
Can you tell what I am thinking by looking at my EEG data?	No! We cannot tell what you are thinking, but we can tell that your brain is active, and neurons are firing. All we can see is which frequencies your brain is using during your session, and how intense the brain activity is within each frequency band.

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Why are some sessions easy and others harder?	Neurofeedback works by training your brain to spend more time in frequencies associated with optimal brain function. The training sessions will cause changes in your brain. Over time, you will gradually improve, causing your threshold to gradually increase, thereby making it more difficult to achieve the same.  However, do not be disheartened. This is the way that neuroplasticity works. Your threshold will go up and down and sometimes you will reach a plateau where it feels too hard. This is all part of changing your brain at a very deep level and is a natural process. The most important thing is to keep going with the sessions and your performance will continue to improve.
Why can I not perform more than one session a day?	Neurofeedback training is a bit like going to the gym - it is a workout for your brain. As you learn to self-regulate your brain activity, many changes can happen to the structure and function of your brain. The brain needs time to rest and assimilate the training. Therefore, you should only train once a day and do 5-6 sessions a week.
What happens if I perform a partial session?	The session will be marked as incomplete unless you finish the session before the end of the day. If you start a session and then stop halfway through, you can finish the session on the same day, but you will need to go through the baseline process again before completing the remaining training blocks.
Should I train if I have been drinking caffeine or sugary drinks?	You should wait for at least one hour after drinking any liquids containing caffeine (e.g. tea, coffee, or energy drinks) or lots of sugar, such as soft drinks. This is because caffeine and excess sugary drinks cause the brain to change and will affect your results.
Should I train if I have been drinking alcohol?	No! Alcohol causes the brain to change and affects many areas of brain activity. If you have been drinking, you must not use the headset or do any training. If you have been drinking heavily the night before, the alcohol will still be in your system and so you should not train the following day either, as your brain activity will still be affected.
Should I train if I am feeling unwell or overly stressed?	If you are unwell, or if you are feeling very stressed, you should consider cancelling your session for that day. Training while unwell or stressed may affect the efficiency of the training and the accuracy of the results. For example, if you are running a fever or have a bad cold, this may affect your brain activity and your ability to relax. Instead, wait until you are feeling better before doing a session.