

15 July 2021 - A bit of a milestone.

95 days after my first seizure event, and after a mere 285 seizures, I was able to demonstrate in public 'moving the seizure' and bringing an involuntary action under voluntary control. A huge step for me. I have been practicing this for weeks now, and whilst it is early days, it is evidence of new neural pathways being formed. Even more importantly, it is the first step to making this the 'default' learned response. I do not want to overstate the extent of this small achievement as one swallow does not make a summer.

So to some detail. What do I do. Well I have to detect an aura. Further, the type of aura has to be the one which I have learnt to recognise as being the precursor to a physical seizure. I then have to wait for the seizure to 'start' in my lower left leg and the first repetitive tremors in my left arm. At this point, here comes the simplicity. I mirror someone who is making a 'duck quacking' sign with their forefinger and thumb. I have to be sat opposite them. I focus on the simple opening and closing of the other persons finger and thumb. I 'allow' the tremor to develop until it is quite 'shaky'. Then I put all of my concentration into forming the same shape with my left hand and try to 'match' the opening and closing of the others persons finger and thumb. This will take a minute or so for me to 'convert' my tremor into being able to slowly close my own finger and thumb. With more concentration and with no other sensory distractions, I gradually start to synchronize with the other persons movements. The time to do this has shown to be variable over recent weeks, as I have practiced it. It just takes as long as it takes. Then, once in synchronisation, the tremor stops. As if a switch had been turned off. I can then easily and voluntarily mimic the other persons movements with little effort. This has turned an involuntary action into a voluntary action. I am in control.

Now for the party trick. The seizure moves. My right arm develops the tremor. To date, 99% of seizure activity has started in the left hand side of my body. It is if the brain is saying, hang on a moment, I used to be able to do this involuntarily on the left hand side, I am not allowed to do this anymore, so where can I do it now. I know, lets try the right hand side of the body. However, as this is a relatively 'new' involuntary action, I can bring this involuntary action under voluntary control a lot easier by using the same techniques as above. The involuntary action in my right arm has not turned from a learned response to a conditioned or auto reflexive response. In relative terms of time, the right arm quickly synchronises with the other

persons. I can then mimic the rhythmic movement. The tremor stops. The involuntary action has been turned into a voluntary action. I am in control.

Now for the really interesting bit. I get a post seizure headache. Life carries on. I have just cut out the middle man of a physical seizure.

As I mention, it is early days and this only brings seizure events of a specific type under control, but as a start, I am content with progress. I did mention to my neuro team what I was trying to achieve with the above when I met with them over a week ago. What I now need to do, is to be able to do this small step above repetitively and consistently. After this, I have then to figure out how to extend this to the rest of my body and for seizures which are of a different type. Once I have refined this process, this leaves the absence seizures but I will take things progressively and with caution. I have yet to figure out a way of bringing those under control but the more I learn the more I challenge myself to 'unlearn' the 'learnt' and 'learn' new neural pathways.

Neuroplasticity in action.