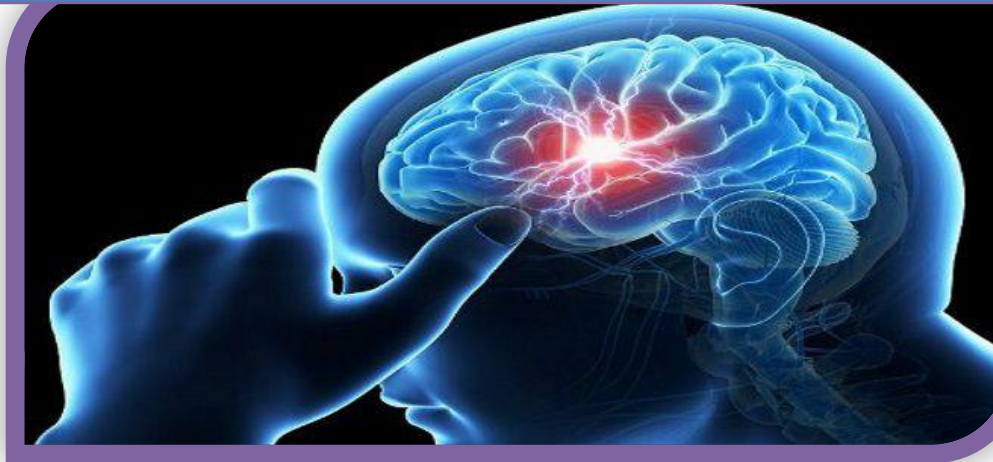


# Visual Perceptual Therapy Case Study



JOHN

A STORY ABOUT STROKE RECOVERY

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I first heard about John from his niece, who had spent a lot of time with me, discovering the world of [visual perceptual performance](#).

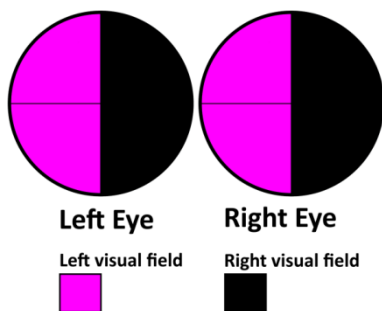
John was in his early 70's and was internationally renowned in his field of work. He had suffered a devastating stroke and had already spent 3 months in rehab, where he had made absolutely no progress at all.

I met with him and agreed to work with him 3 times a week for 6 weeks. He lived 2½ hours away by car, so I was essentially committing an entire day to him every time I saw him.



John had what is called a 'neglect' where he was unaware of the left side of his body, meaning he had to be reminded to take care of his left arm because it didn't work, and he was unaware of its existence. If he wasn't reminded about the left side of his body, he would sit or lie on his arm, or leave it hanging down beside the wheelchair, where it would get caught in the spokes of the wheel. He would also run into the door frames on the left and get his left leg caught as well.

John also had a left visual field deficit or neglect. If you are unfamiliar with how visual fields work and how neglects impact upon them, here is a brief outline for you.



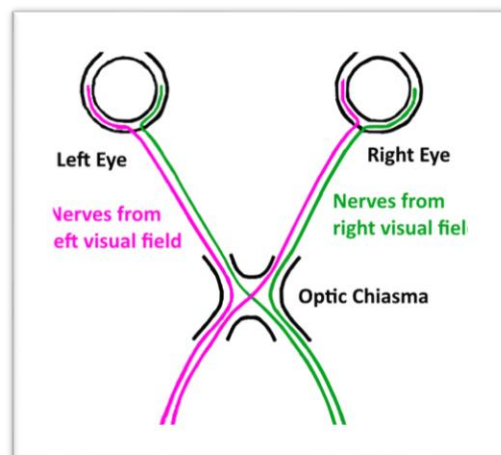
Our eyes have various fields of vision, with a nerve supply going to these fields; however, that nerve supply to our eyes is not what most of us think it is

The most easily recognised visual fields are left and right. In the image here, the left visual field is coloured pink and the right field is coloured black. The nerve supplying the left visual field in each eye is the same, as is the nerve supply in the right visual field. Consequently, when we lose sight in the left visual field, we lose it

in this visual field and in both eyes, with a left visual field deficit not the same as being blind in the left eye only. The same holds true for the right visual field.

Our visual fields operate this way because the optic nerve bisects behind the eyes in a place called the optic chiasma; with nerve from the left visual field, from both eyes, merging together at this point, and the nerves from the right visual field doing the same. The image on the right demonstrates this.

From here, both optic nerves travel off to the visual cortex at the back of the brain, with one nerve containing all information from the right visual field and the other containing all information from the left visual field. Consequently, when a stroke affects vision, it is likely to affect the left or right side of both eyes, resulting in a visual field deficit on either side.



When I was first contacted about working with John, I had asked what his [cognitive status](#) was like and had been told it was very good. This ultimately proved to be inaccurate and, while it was better than most people who suffer such a stroke, there were some very definite issues.

I began working with John and he was a willing participant and made rapid progress. Within 2 weeks he was reading again and his neglect had significantly resolved. It was fantastic to see such a profound improvement in such a short period of time. Again, I was seeing the impact this therapy can have, even when the issues the client faces are substantial. The reality was the John had made absolutely no progress with three months of rehabilitation and here he was reading again within 2 weeks of starting the [Visual Perceptual Therapy](#). But that wasn't all.

Within 4 weeks John walked the length of the parallel bars twice, with little to no assistance and his gait was almost normal. His cognitive status had also markedly improved, enough for John to chair a meeting with his family and GP focusing on him returning to rehab. Overall, John's progress had been huge and ad occurred very, very quickly. This is an excellent example of what is possible, when we go to the core of [human performance](#) and address [neurological cognitive based deficits](#) from there.



Because John was returning to rehab, I would no longer see him. However, at this time I did make one very strong recommendation and that was that John should **not** get an electric wheelchair or mobility scooter. I made this recommendation because he was still exhibiting all the signs of being in significant [sensory overload](#).

## The role of sensory overload

Sensory overload is a very common consequence of any damage to the brain. In fact, the majority of symptoms people experience post- stroke or traumatic brain injury can be attributed to sensory overload.

Sensory overload occurs because connections (neurones) within the brain are damaged or destroyed. These pathways in the brain are formed and modified on the basis of the patterns of [sensory information we have integrated](#) and the patterns of [task performance we have integrated](#). The process of integration is one of creating patterns of information or performance, experientially.<sup>1</sup>

When we look out upon the world and experience it, that worldview is comprised of patterns upon patterns, upon patterns. That capacity to recognise patterns allows us to construct the reality we experience. Without it we would be in a constant state of sensory overload, because we would be constantly beset by a barrage of undifferentiated sensory information and have no way of making sense of it all.

When we act in or on the world, that performance is also constructed of patterns ie: patterns of movement, patterns of speech; in fact, any patterns of any action or activity.

When the brain is damaged, those pathways in the brain that have been formed on the basis of these patterns (of sensory information and performance) are damaged and disrupted. Suddenly, the same amount of sensory information is flowing into the brain, but the structures that allow us to make sense of it all are no longer there. The result is that we are beset by an influx on undifferentiated sensory information, or sensory noise, and with no way to actually deal with this.

<sup>1</sup> In order to truly begin to understand what 'experiential' means we have to start looking to our experience of life and stop deferring to our mind and its interpretations. Experience exists as a totality, whereas the content of our mind is always about breaking our experience into pieces (concepts) rather than appreciating it as a whole. Doing this limits our understanding and our performance.

In our world, different situations contain different volumes of [sensory loading](#). The busier and/or more complex a situation is, the more sensory information it contains. For example, the busy city street will have far a greater sensory loading than the quiet forest walk. Our position relative to our world also has an impact. Simply standing will expose us to far more sensory loading than sitting down. This is particularly true of someone who has been confined to a wheelchair following a stroke or traumatic brain injury. Simply asking them to stand up can often send them into sensory overload.

Now John had been in a wheelchair since his stroke and the only time he came close to standing up was when staff transferred him from bed to chair, etc. In order for most people to regain as much function as possible following any damage to the brain, they have to be able to process just as much sensory information whilst sitting or standing. If a client is unable to participate in the *Visual Perceptual Therapy* whilst standing, their recovery is highly likely to be limited. One of the reasons I was so supportive of John going back to rehab, beside him capitalising on the gains he had already made with me and continuing to improve upon his performance, was so that he could come back and work with me again, and run through the *Visual Perceptual Therapy* again, this time in standing.

Until John was able to do this, his tolerance for sensory loading would remain significantly limited. Putting him in an electric wheelchair or on a mobility scooter would expose him to a degree of sensory loading that was guaranteed to send him into sensory overload. In John's case, this carried with it a significant risk of having a seizure.

Unfortunately, not all therapists know as much about [visual perceptual deficits](#) as perhaps I do and John was encouraged to get an electric wheelchair by another occupational therapist he saw. John did go on to have several seizures as a result of using that chair and this, unfortunately, resulted in him developing a level of anxiety, which negatively impacted upon him when he did return to work with me again.

## Working with John again

There usually comes a time, when clients with more significant issues will plateau in the *Visual Perceptual Therapy*. This does not signal the end of my involvement or that the therapy is no longer effective. Contrary to this, it is really a signal that the client now needs to go out into the world and make use of the gains they have made in the therapy. *The Visual Perceptual Therapy* is basically restoring the skill base we need, in order to connect the dots and make sense of the world, and to be able to act in and on it the world. While the brain is phenomenally adaptive and able to be modified in response to what is being perceived and how we respond in turn, people need to engage with life in order to regain a useful level of performance. There is little point in providing someone with the *Visual Perceptual Therapy*, if they are not going to engage with life again. When a client plateaus in the therapy, they are telling me they need time to engage in life and consolidate their newly developed skill base.

John's return to rehab marked the point where he had plateaued in the *Visual Perceptual Therapy*, with rehab being an ideal situation where he could consolidate his performance.

John called me about 2 years later. He had moved to the area I lived in and wanted to work with me again. When I met with him I was shocked at how much he had declined; his posture was atrocious, with him leaning

### About posture

Any lateral (sideways) leaning post-stroke or traumatic brain injury is always the result of uneven seated weight bearing on the side of the body affected by the event. Raising the unaffected side up by 50-60 mm with some high density foam usually corrects this and posture will improve as a result. Seeing someone who specialises in correcting seating issues can be helpful but, they should know this trick for you should go somewhere else.

laterally and being unable to raise his head and look forward. His functionality was also terrible. He had not continued to walk and was now totally reliant on his manual wheelchair for mobility. It was also obvious he was also depressed and that this was not being effectively treated.

As I began to work with John it was apparent that his time in rehab had taught instilled some really bad habits in him. Anyone who knows me knows how much I abhor bad practice and I had seen John walking before he went into rehab and could readily see how his performance had not actually benefitted from going to rehab as we had hoped. We began to rectify the situation.

I ran John through the *Visual Perceptual Therapy* again and worked with him on his walking. He got to the point where he could walk to meals and toilet independently and shower with minimal assistance, and we also worked on his arm function. However, John's depressed mood was a major barrier to his progress. His GP at that time was obviously not interested in working with either me or the staff where John was living, and we were all saying the same thing. John himself was also reluctant to address this issue, even though it was apparent to him how it was impacting on his recovery.<sup>2</sup>

Overall, John's improvement was amazing. He went from someone who was totally dependent on others for all of his cares to moving out of long term care and going to live in his own home with a live in carer. He was able to walk independently and to manage his own affairs. All of this is possible, because the core skills, abilities and processes at the heart of his performance were addressed.

If you would like to know more about the *Visual Perceptual Therapy* and whether it is suitable for your situation, you can [contact](#) me to discuss your particular needs.

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<sup>2</sup> Depression has an incredibly significant impact on anyone's cognitive performance. The first thing to interrupt our performance, before anything else will, is our [psychological and emotional status](#). It's actually impossible to differentiate between how much of a person's presentation is cognitive and how much is psychological and emotional from either a clinical or observational perspective. However, treatment with an anti-depressant always clarifies the situation and can do so in quite a marked way.