

# Reduction in seizure activity in an Epilepsy sufferer with Autism Spectrum Disorder under Chiropractic care: A case report

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**Background:** A 22-year-old female presented for Chiropractic care with chief complaints related to the frequency and severity of her epileptic episodes. These were severe and life-interrupting, preventing her from engaging in educational, social, employment or exercise activities, and ordinary care including pharmaceutical interventions had not solved this problem.

**Intervention:** The patient was placed on an initial care plan of three visits per week and then adjusted down as per her nervous system's ability to adapt. During this time she was adjusted using the Torque Release Technique and was advised to use a Denneroll posture correction device at home.

**Outcomes:** The patient's seizures ceased, allowing her to engage in exercise, and social activities and, thanks to increased mental clarity, begin searching for employment.

**Conclusion:** In this case, Chiropractic care was the only change to the patient's care regime, and we suggest that Chiropractic care is associated with the cessation of her seizures.

**Indexing Terms:** Chiropractic; Subluxation; epilepsy; seizures; ASD (autism).

## Introduction

While the topic of Chiropractic care for neurodivergent individuals such as those with Autism or Attention Deficit Hyperactive Disorder remains controversial and lacking in larger studies thus far, case report data continues to create a narrative wherein individuals of varying ages have experienced some benefit concomitant with chiropractic care.

While the majority of these cases are paediatric, and improvements relate to sensory problems as well as interpersonal connectedness, aggression, hyperactivity or sleep, there remains an opportunity for Chiropractors to explore neurological changes that may result from subluxation-based Chiropractic care. (1 - 5)

For example, what might the neuro-adaptive changes be when chiropractic

*... this case shows an association between Chiropractic correction of subluxation and a dramatic reduction in the frequency of epileptic episodes ...'*



care is deployed to reduce interference in the nervous system, increase sensorimotor integration and support neuroplasticity, all possibilities that have been elucidated under other chiropractic research? (6 - 12)

There remains a paucity of literature pertaining to Chiropractic care and epilepsy. However, case report data reveals a number of cases in which the frequency and severity of epilepsy have reduced concomitant with Chiropractic care, thus improving quality of life and other aspects of symptomatology:

- ▶ A 22-year-old female under chiropractic care experienced a resolution of seizures and an improvement in quality of life while under chiropractic care (13)
- ▶ A 19-year-old male with post-traumatic epilepsy also experienced resolution of seizures concomitant with chiropractic care (14)

These case reports are notable, in addition to paediatric cases in which seizure activity was reduced or ceased.

This present case report contributes to this growing knowledge base concerning chiropractic care in people with epilepsy or other seizure disorders, and adds the element of existing Autism Spectrum Disorder.

### Case details

A 24-year-old female presented for Chiropractic care with concerns about her epilepsy symptoms. She had limited previous experience with Chiropractic care and due to her condition, maintained only a low-to-moderate activity level due to the many other therapeutic interventions managing her multiple health conditions. The patient had been diagnosed with epilepsy since birth, with symptoms starting as extreme infantile spasms. She had also previously received an *Autism Spectrum Disorder* diagnosis and had bulged spinal discs at L4/L5 and L5/S1.

At the time of her presentation at my Chiropractic clinic, the patient was overweight and pre-diabetic. She was concerned that her inability to exercise due to her epilepsy and associated medical interventions was affecting her ability to lose excess weight. Seizure frequency was impacting her ability to exercise and participate in normal social activities that she previously enjoyed. She was unable to participate in exercise, day programs, social activities or employment due to the frequency and severity of her seizures. She felt that this lifestyle was completely controlled by her condition.

She described that her eyes would get heavy around the time of her seizures, her memory would become worse, and she would become very moody. She also felt the number of medications she was taking was 'excessive', and described the side effects of this medication as often being worse than the seizures. The patient remarked that medical doctors had encouraged a level of acceptance that her current state was likely to be 'as good as it gets', and so the patient had begun to trial diets and other activities in an effort to attain a better quality of life. These were largely unsustainable or ineffectual.

### *The agreed objectives*

The aims of care were to reduce subluxations to allow for optimal life expression and facilitate a return to her normal activities. For the patient, this included goals of being able to participate in karate, walk an increasing distance without pain, walk around Disney World with her family, and eventually to be able to gain employment.

### *Clinical findings*

Upon presentation to my clinic the patient underwent a comprehensive examination including thermal scans, sEMG, postural analysis, motion palpation and static palpation, as well as standard neurological and orthopaedic Chiropractic tests.

The *Insight Station* thermal scan revealed mild-to-moderate upper cervical subluxation findings, with T6-T10 returning mild-to-severe subluxation findings with twisting. DTG findings were shut down at the mid-thoracic spine. sEMG findings included a total energy result of 290, pattern 68% and symmetry of 65%.

The patient had a significant cervical kyphosis, with flexion restriction at C1, C2, C3, C4, and C6, and extension restriction at C1, C3, C5, and C6. This was measured by cervical radiography in both flexion and extension. She also had a notable Thoracolumbar scoliosis measuring 19.8°.

### Management and outcomes

Following examination the patient was placed on a care plan whereby the Torque Release Technique (integrator only) was used and a Denneroll Spinal Orthotic device was recommended. The care plan began with a high frequency of visits due to the severity and life-interrupting nature of the patient's condition. The patient was seen for three sessions a week for a total of twelve weeks and then moved to one session per week, before moving down to monthly maintenance care once her condition stabilised and the chiropractor was able to establish the ideal care frequency for the patient.

Radiographs were taken for the purpose of comparison after 35 visits, and Insight station sEMG scans were repeated every 12 visits. During this time, her sEMG readings improved consistently. At her re-evaluation session, significant improvements were noted, including an increase in energy (137%), an improved subluxation pattern (84%) and an improvement in spinal symmetry (86%). Radiographic comparison reveals a significant reduction in her subluxation patterns, now only with flexion restriction at C6, C2, and C1, and extension at C4, C2, and C1.

It is important to note that the patient took extended trips during her corrective and wellness care. She and her mother reported that during those trips when she was not getting adjusted, while seizures didn't go back to the initial frequency, they did return. When she resumed her care, the patient reported an immediate cessation of seizure activity. This phenomena occurred two-to-three times in the most recent year of her care. The patient now arranges to shorten trips to ensure she doesn't go too long without getting adjusted.

At her re-evaluation session, the patient noted that seizure frequency had dramatically decreased.

Not only was she able to walk and bike ride, but she could swim. This is a significant improvement as she was previously unable to due to fear of having a seizure in the pool and subsequently drowning. Seizure activity had ceased, and she was now able to function with a clear brain and had commenced searching for employment.

The patient reported that she was now able to take responsibility for her health '*for the first time ever*' and was able to engage with life more fully. Given her age and stage of life, this represents a significant change in the trajectory of her life.

### Discussion

This case report includes a number of factors worthy of noting.

#### *Frequency of care*

The first of these is care frequency. At one point, early in her care, she missed her weekly appointment in order to stay home and do homework and had a seizure on that day. However,

after the care plan moved from three times per week, to once per week and then down to monthly, she was able to remain seizure-free. A second case report has made similar observations with regard to care frequency in chronic or terminal health conditions. (15) In the case of a male patient with Motor Neurone Disease, the Chiropractor noted that when he skipped care appointments due to travel or family obligations, there would be a negative impact on his symptomatology. The Chiropractor would then have to work harder to restore him to the level of health or symptomatology he had prior to the missed appointments. While this patient's care trajectory was aimed not at cure but at life-prolonging, the importance of care regularity was emphasised.

In this present case report, it appears that reduction in care regularity, especially during the critically important early days of care when subluxation patterns are being addressed for the first time, may have had a direct impact on seizure activity.

As to what drove the positive changes in this case, it is suggested that the reduction in subluxation allowed her body to better adapt to physical, chemical and emotional stress. Given the poor outlook she had on her options in life, the restricted physical activity and the high number of pharmaceutical interventions used to stabilise her, all three of these areas of stress were high. Chiropractic care meant that her body could better adapt when subluxations were reduced, and those stresses didn't place her nervous system into overload and cause a neurological discharge in the form of seizures.

### *Biostructural factors*

The second potential mechanism behind the improvement is biostructural in nature. Katz et al noted improvements in cerebral haemodynamics in patients undergoing chiropractic care for the correction of subluxation involving cervical lordosis. (16) This work, when read in conjunction with studies that linked seizures to interstitial hypo-perfusion, may point to an increase in blood flow to the brain resulting in better perfusion and thus a reduction in seizures.

While this is a stand-alone case report and thus no generalisations can be made for wider populations, this research connects the dots in a way that logically leads to a need for further research on chiropractic care for epilepsy sufferers.

### **Conclusion**

This early evidence suggests that Chiropractic care may provide some hope for sufferers of epilepsy. They should anticipate and expect both a corrective care process and, especially due to the results of this case and potential future research, should expect to continue with ongoing wellness care at a frequency less than corrective care.

Larger scale studies would of course be needed to confirm and explain the mechanisms and effect sizes that individuals with epilepsy may expect when engaging with subluxation-based chiropractic care, especially with regard to cervical care and brain haemodynamics. But chiropractors, chiropractic researchers, epilepsy sufferers and researchers alike would be remiss to overlook the potential that lies within this line of investigation.

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### *About the Chiropractor*

Dr Anthony Pellegrino, DC, CACCP, CSSPP, CSCPP is a paediatric chiropractor and craniopath, and has been practising at the Jersey Shore for the past nine years. His practice, *Absolute Chiropractic*, specialises in nervous system focused chiropractic and cranial care for adults and children, especially those with social, behavioural, and emotional challenges.

Dr Anthony gained his Doctor of Chiropractic at *Life University* and is certified (CACCP) with the International Chiropractic Pediatric Association.

### *About the Case Report project*

This Case Report is a part of the *ASRF Case Report Project*, a project designed to gather client studies from chiropractors and transform them into much-needed case reports, focused on the effects of chiropractic care on clinical presentations highly relevant to chiropractic, such as stress, immunity and adaptability. This project was made possible by the generous fundraising and contributions of ASRF supporters.

### *ASRF definition of subluxation*

*'A vertebral subluxation is a diminished state of being, comprising a state of reduced coherence, altered biomechanical function, altered neurological function and altered adaptability.'*

