

# Successful Care of a Young Female with ADD/ADHD & Vertebral Subluxation: A Case Study

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## ABSTRACT

**Objective:** This case is being presented to emphasize the important role that Chiropractors play in the treatment of children diagnosed with Attention Deficit Disorder.

**Clinical Features:** A mother brought her seven year-old daughter in for evaluation. Her primary concerns were the attention and focusing problems she was having in school, hyperactive behavior, sleep disturbances and her aggressive, negative behaviour toward her sister.

**Intervention and outcome:** Examination included postural assessment and the protocols of the Torque Release Chiropractic technique were employed to determine the location of vertebral subluxations. The mother filled out a behavioural and personality assessment as well as a general health history form. During the course of her chiropractic care, her mother completed a weekly monitor of the child's sleeping and appetite patterns as well as various behavioural traits, rating them on a 1-10 scale. The patient began receiving Chiropractic adjustments for the correction of her vertebral subluxations three times a week. She also received Craniosacral therapy in conjunction with her chiropractic adjustments.

The mother and child were instructed on dietary changes and nutritional supplements that would support neurological function. Resources were also given to the mother that taught visual and kinesthetic communication techniques.

Over the course of her 90-day treatment schedule, improvements were noted on the daughter's weekly behavioural assessments. The mother noticed an overall change in her attitude as well as specific tasks.

**Conclusion:** Up to six million children display symptoms and learning disabilities that are labeled as ADD/ADHD and are subsequently put on medications that have not been proven safe and effective, and also have serious side effects. Research shows that many of these children are pre-disposed to addictive and obsessive/compulsive disorders due to a genetic variant and that the medications can launch them into more dangerous behaviours and substance abuse.<sup>1</sup>

Family Chiropractors frequently see these children in their offices and are often able to correlate symptoms with the presence of vertebral subluxations and other factors that affect the child's quality of life, including diet, lifestyle, and emotional stressors. As chiropractors, the ultimate goal of care is to improve over-all function by reducing vertebral subluxations that interfere with life expression.

**Key Words:** *Chiropractic, Subluxation, Torque Release, adjustment, ADD/ADHD (Attention Deficit Disorder/ Attention Deficit Disorder with Hyperactivity)*

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## Introduction

There is much controversy surrounding the diagnosis of ADD/ADHD. The diagnostic criteria used in the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM) last revised in 1994 divides the condition into two types.

One is for "Inattention" and the other "Hyperactivity-impulsivity" behaviours. Dr Weintraub, shows these tables in her textbook, *Natural Treatments for ADD and Hyperactivity*.<sup>2</sup> Many of the symptoms listed apply to perfectly normal children:

- Often fidgets with hands or feet or squirms in the seat
- Is easily distracted by extraneous stimuli
- Has difficulty playing quietly
- Talks excessively
- Often acts before thinking
- Needs a lot of supervision
- Runs about and climbs on things excessively
- Has difficulty sticking to a play activity

Six items from either list qualify a child for the diagnosis.

There is no scientific validity or clinical reality to this particular number. In clinical practice, children are routinely diagnosed with ADHD and treated with Ritalin if they display one, two, or three of these characteristics, or even a few behaviours that resemble these traits.<sup>3</sup> Dr. Breggin, among others, are concerned that the diagnosis is frequently made in the doctor's office after a parent is given a simple checklist where she must identify and rate her child's behavior from "better, same or worse."

"Hyperactivity is the most frequent justification for drugging children. Difficult to control children are certainly not a new phenomenon, but attempts to give them a medical diagnosis are the product of modern psychology and psychiatry. At first, psychiatrists called hyperactivity a brain disease: 'minimal brain dysfunction' (MBD). When no minimal brain dysfunction could be demonstrated, the label became attention deficit disorder (ADD)."<sup>4</sup>

Researchers Kenneth Blum and Jay M. Holder believe that Attention Deficit Disorder is a compulsive disorder usually genetic in origin that results from imbalances of neurotransmitters--the messengers that communicate between the neurons in the brain. Their article goes on to say that "the inherent tragedy here is that the ADD person is genetically at risk of developing an addiction. The same neurochemical imbalance in their brain that produces ADD also produces a predisposition to impulsive, addictive, compulsive behaviors, and therefore should not be administered a cocaine-like surrogate such as Ritalin."<sup>5</sup>

Evidence shows that a high percentage of teenaged felons and juvenile delinquents have been on drugs like Ritalin before they entered a life of crime.<sup>6</sup>

Prescriptions for Clonidine increased significantly in the 1990's and continue to rise. Children between the ages of 5-19 who have been diagnosed with ADD/ADHD symptoms are being prescribed psychotropic medications such as Ritalin (methylphenidate) and Catapres (Clonidine) in rapidly increasing numbers.<sup>7</sup>

The increasing numbers of prescriptions written for Clonidine in children aged two to four is particularly disturbing since its use for attention disorders is "new and largely uncharted". Slowed heart beat and fainting have been reported in children who use Clonidine with other medications for attention disorders.<sup>8</sup>

Researchers have found that children's eating habits may well be contributing to symptoms labeled as ADD. Children's major sources of nutrients were breakfast cereals and fruit juices.<sup>9</sup>

With knowledge comes responsibility, which for the chiropractor includes assuring that their patients are told the truth about the effects of their lifestyle on their health. In the case of children labeled as ADD/ADHD, these effects can include potentially dangerous symptoms associated with medication side effects and the future pre-disposition toward life-threatening addictions.

## Case Report

This 7 and a half year old female was brought in for chiropractic care by her mother. The mother's primary concerns involved the teachers and school system recommending psychological testing for what they termed "subtle ADHD findings". The mother did not follow through with a neurological evaluation and did not want her child to take medications. The school had recommended that the child repeat 2nd grade and said she was "immature".

The mother also noticed focusing problems, hyperactive behaviour, and negative, aggressive behaviours toward her sister, as well as sleeping disturbances. She stated that her daughter was active in gymnastics, and experienced several falls a week.

On her initial Behavioural Assessment, the mother listed "short attention span, lack of perseverance, failure to finish projects, action before thought, and poor organization" as her primary observable symptoms.

Past medical history showed a history of ear infections treated with antibiotics, primarily amoxycillin, high fevers, colic as an infant, and digestive difficulties including constipation.

Dietary analysis revealed a healthy, well-rounded diet of organic foods, including cereal, eggs, fish, meats and vegetables. It was noted that the child had a high craving for "anything sweet" which would increase during times of emotional stress.

The child was evaluated for vertebral subluxations utilizing the Torque Release technique. Initial assessment includes observation of leg length discrepancies with the patient in the prone position. This is termed functional leg length inequality in Torque Release Technique. Unequal leg length is described as the expression of the body's fixated pattern of inadaptability and indicates lateral or posterior rotated subluxation only.

Dr. Holder, developer of the Torque Release technique, describes the definition of a subluxation as:

"A condition of one or more spinal segments that have lost their ability to move freely or completely throughout their range of rotation that physically interfere with the spinal cord and or spinal nerves and their function."<sup>10</sup>

His premise is that all vertebrates have a brain reward system utilizing opiate receptor sites and the vertebral subluxation complex is the hallmark of insult of the vertebrate's ability to express a state of well-being to its fullest potential. Therefore, Torque Release Technique views the subluxation as a "separation from wholeness".<sup>11</sup>

Holder describes the causes of subluxation as:

"Imbalance between external incoming forces and internal resistive forces often an exaggerated perception of stress causing inappropriately excessive internal resistive response. The categories of one cause include 1) physical (trauma, thermal, electromagnetic, gravity) 2) chemical (nutritional, toxic, mood-altering) 3) mental (perceived threats of stress, emotional) 4) genetic."

The principles of the Torque Release Technique model are based on the original precepts and findings put forth in the two textbooks written by R.W. Stephenson, *The Chiropractic Textbook* and *The Art of Chiropractic*.

### **Torque Release Technique Indicators**

In addition to functional leg length inequality, Torque Release technique utilizes the following findings as indicators to determine location of subluxations:

#### *Palpation*

The process of gathering information through touch.

Four types:

1. Scanning palpation
2. Tissue palpation
3. Intersegmental palpation
4. Motion palpation

The cranio-spinal meningeal functional unit is evaluated as a whole to observe energy imbalances including abnormal heat or cold. Vertebral segments are checked for rotational movement as well as anterior and posterior misalignments.

#### *Abductor Tendency/Adductor Resistance*

A muscle which upon contraction draws apart and away from median plane of the body such as the action of the tensor fascia lata. The tendency of one or both legs to remain in abduction and resist being moved into adduction or together indicates C2 subluxation – usually on the side of greater resistance. The resistance is graded on a 0-5 scale with 0=no resistance and 5=maximum resistance to movement.

#### *Foot Flare (Inversion/Eversion)*

Toe-in or Toe-out – can be right, left or both observed in the prone position; indicates torsion/distortion/tension in the spinal cord and meninges. This is associated with anterior rotation of spinal segments with dural attachments.

Sphenoid, Occiput, C1, C2, C5 Sacrum (S2,3,4) and Coccyx

anterior rotation is associated with traction of the meninges. Occiput has dural attachment around the entire foramen magnum.

#### *Foot pronation/supination*

The foot resists against direction of supination and/or pronation and indicates a problem with the position of the trochanter. The resistance is rated on a 0-5 scale as above.

#### *Heel tension (Achilles)*

Indicates spinal cord torsion/distortion/tension and any subluxation, posteriority, superiority, or inferiority. Spinal cord tension at C2, C5, Sacrum, and coccyx is most likely. Resistance is rated on a 0-5 scale.

#### *Abnormal breathing patterns*

Observation of patient's breathing pattern, looking for slow, rhythmic and full movement occurring in a wave. Normal breathing is not compartmentalized. An observable decrease or incomplete movement accesses movement throughout the Cranio-Spinal meningeal functional unit.

#### *Inappropriate sustained patterns of paraspinal contractions*

Evaluated through surface EMG and indicates dominant emotional response patterns, sympathetic nervous system, i.e. Fight or flight syndrome.

#### *Congestive Tissue Tone*

Observation of abnormal fullness or congestion primarily in non-muscle tissue i.e. the subcutaneous tissue over anterior neck muscles and the kidney area. Indicates trapped dominant patterns as a sequel to toxic chemicals, drugs, etc.

#### *Postural faults (standing, sitting, prone)*

Indicates stuck inappropriate pattern of spatial gravitational adaptation.

#### *Cervical syndrome test*

A screening test for posterior rotation of C1 or C5 with or without laterality. A leg length inequality (short leg) is required prior to this test being performed. Evaluate in a prone position. The side that is down when head is turned and legs even is the side of posterior rotation. The legs must remain even to the exact millimeter and not lengthen or shorten again after a few seconds.

#### *Bilateral Cervical Syndrome Test*

When the short leg changes back and forth to long and short as the head is turned from left to right and back again. In other words, the legs remain uneven. Repeat this action several times to verify that the legs are switching back and forth.

A finger pressure test should be done first at coccyx, then occiput, C5, atlas or T6. The posterior contact on the spinous process, the tubercle, or E.O.P. with a line of drive inferior to

superior, and posterior to anterior will cause the legs to remain even, thus determining which segment to adjust with the instrument. Also pressure test for right or left torque.

### *Derifield Test*

This is a screening test for the pubic subluxation, anterior-inferior sacral base, trochanter, posterior-inferior ilium. Must have a short leg prior to performing test in the prone position and must be a complete crossover (switch from initial short leg in prone position to that leg lengthening within the 90 degrees of flexion of the knees.

### *Abnormal heat/energy radiation from the body*

Utilizing various heat-sensing instruments such as the Thermograph, neurocalometer, etc. Indicates incomplete adaptation and inappropriate stuck patterns.

Torque Release Technique is described as a “non-linear” technique. The same segments are never adjusted in the same vector or in the same order, any three visits in a row, and only 1, 2, or 3 segments are adjusted on any one visit. Leg testing and pressure testing are utilized to determine line of correction, subluxation, and the presence of torque. The patient is encouraged to allow time to process the changes in their body following the adjustments given.

This patient’s craniosacral system and rhythm and was also evaluated during her treatments utilizing the Upledger Craniosacral protocol.<sup>12</sup>

### **Indicators and Care Relevant to this Case**

This young female patient’s initial chiropractic examination, utilizing the above indicators, revealed postural distortions of slight head tilt to the right with the right ear lower than the left. Her head was carried forward of the normal gravitational line by approximately one inch. Palpation revealed taut and tender muscle fibers along the medial scapular border between the levels of the fourth and eighth thoracic vertebrae most pronounced on the right side. The patient exhibited extreme hypersensitivity during palpation, squirming and pulling away from touch and saying “it tickles”. Congestive tissue tone was evident over the right upper dorsal area.

The patient displayed a one-inch right leg discrepancy, which I will refer to as a “pelvic deficiency”. Leg length became equal with the patient’s head rotated to the left side, indicating a positive cervical syndrome on the right side and subluxation of a cervical vertebra. A gentle force with finger pressure was directed into the 1st and 2nd cervical vertebrae on the right side, alternating clockwise and counter-clockwise rotational movements to determine if leg length equality could be obtained. Following the clockwise force at the second cervical vertebra, the leg lengths became equal (balanced), indicating ease of tension in the dural attachments along the right side of the spinal column and correction of the vertebral subluxation.

An adjustment (specific force applied to a vertebra to release the flow of vital life force along the nerve pathway) was given utilizing the Integrator instrument. This instrument was

developed by Dr. Holder, the developer of Torque Release Technique. It is a spring-loaded hand held instrument, which delivers a force utilizing torque and recoil at 1/10,000 sec., similar to a toggle-recoil hands adjustment.<sup>13</sup>

The instrument is set with a pre-loaded tension so that when held lightly against the skin, the specific force is delivered in an exact line of drive to correct the misaligned vertebra. In this case, the correction was made at the level of C2, from right to left, with a right torque.

A similar evaluation was performed along the medial sacral border on the left side. A noticeable evening of the legs was noted after applying a light finger pressure medially at the 1st sacral level, also indicating subluxation. The integrator instrument was pre-set and a specific force (adjustment) was applied medially, from left to right, at the 1st sacral level.

The mother of the patient completed a weekly monitor which included the rating of specific behavioural traits, including attention span, irritability, aggression, withdrawn moods, nervousness, depression, memory retention, energy level, listening ability, project completion, and organization skills. She also evaluated the child’s sleeping and appetite patterns. All criteria were rated on a 1-10 scale, with 1 being low and 10 high.

The patient began receiving chiropractic adjustments on a three times weekly basis and continued for 90 days. Analysis utilizing the Torque Release protocol was utilized on each visit, with subluxations in the cervical and sacral regions located and corrected. Upledger craniosacral work was also performed on the patient during the time of each adjustment.

The patient began nutritional supplementation with fish oil capsules and was given dietary advice for increasing protein intake in the form of whey protein powder in “smoothies” for breakfast.

During the course of her Chiropractic treatment the child sustained several falls while doing gymnastics and playing on a trampoline.

A decrease in the child’s overall hypersensitivity to palpation and touch was noticeable after the first two weeks of care. She was able to lie still, without squirming and pulling away.

Following three weeks of care, the mother noted a decrease in irritability and aggressive behaviours and nervousness and an increase in listening ability, project completion, and organization skills on the weekly monitors.

### **Discussion**

Chiropractic pioneers recognized the relationship of stresses on the body causing dis-ease. R.W. Stephenson in his *Chiropractic Textbook*, 1948 stated that “Dis-ease was a failure of organisms to adapt optimally to internal and external stressors because of loss of contact with the inherent organizing principle, or innate intelligence, found in every living organism.”<sup>14</sup>

Modern medicine pays little attention to nutritional factors as a

cause of ADD/ADHD. The Hyperactive Children's Support Group in England has researched and found a connection between ADD and the deficiency of essential fatty acids.<sup>15</sup> Omega-3 and Omega-6 oils are both necessary for proper brain functioning. Food allergies to food substances like wheat and dairy, as well as mineral deficiencies, such as zinc, can interfere with the metabolism of essential fatty acids.<sup>16</sup>

Dr. Ben Feingold describes a large number of natural and synthetic food substances that can also trigger ADD/ADHD behaviours. His Feingold Diet has reportedly helped thousands of parents reverse destructive behaviours and learning disabilities in their children.<sup>17</sup>

### *Educational Arena*

Another area that parents are investigating in their search for help with their children labeled with the diagnosis of ADD/ADHD is in the educational arena. Experts such as Cynthia Tobias, M.Ed are showing that a child's individual learning styles can be a strong factor in how they will receive certain types of instruction in various learning environments.

She discusses the kinesthetic learner, who needs movement in order to concentrate, and offers practical solutions to meet this child's learning needs. She explains that a child with a global or big picture learning style will miss details and only be able to explain things that they know conceptually.

Both these type of learners could be potentially labeled as ADD/ADHD if they couldn't sit still or concentrate in school classrooms. She states, "I believe it is essential that we recognize and appreciate the basic framework and design of each child's mind before we decide that there is a learning disability or attention deficit disorder."<sup>18</sup>

In this case, the mother was willing to incorporate a change in both dietary routines as well as learning styles. The weekly assessment of behavioural traits and sleeping and appetite patterns showed significant improvement in all areas over the course of her chiropractic care. (See Table 1)

This case study serves to contribute to the growing body of chiropractic literature and research that support the relationship between vertebral subluxations and behavioral characteristics labeled as ADD/ADHD.

### *Case Studies in the Literature*

One study by Peet reported the case of an 8-year-old boy diagnosed with attention deficit disorder at the age of 3, medicated with Ritalin and Prozac since age 5. After 6 weeks of upper cervical Chiropractic care, the patient was medication free and improvement was noted in cognition skills, task concentration, emotion control, and decreased aggressiveness.<sup>19</sup>

Another study published in the Journal of Manipulative and Physiological Therapeutics (JMPT) shows a 5-year-old boy who had been diagnosed with ADHD at age 2 and subsequently medicated with Ritalin, Adderall, and Haldol for the next 3 years.

At age 5, the child began chiropractic care and after 12 weeks, the reduction of symptoms was enough to cause the medical doctor to discontinue the medication.<sup>20</sup>

Another two-part study was conducted on 12 ADHD students by Brzozowske in 1980 which concluded that chiropractic care was 20-40% more effective in reducing symptoms than stimulant medication.<sup>21</sup>

### **Conclusion**

This case describes a subluxated seven year old child who was able to avoid the potentially dangerous side effects of stimulant medications and the loss of self esteem associated with a label of ADD/ADHD after the application of chiropractic care. Chiropractic offers children the opportunity of improved quality of life through specific adjustments for correction of their vertebral subluxations, education on lifestyle changes including nutritional support, and resources that will enable and empower the parent to more accurately assess their child as an individual with specific needs in all areas of their lives.

Children labeled or diagnosed with ADD/ADHD can be exhibiting learning difficulties and behavioural traits indicative of their inability to handle certain stressors in their internal or external worlds. Factors such as high sugar consumption, excessively active adrenal glands, under-active thyroid function, high copper levels, chemical toxins, enzyme defects, and previous infections, disorders of vision, hearing, and speech can all interfere with a child's efforts to learn.

Conditions ranging from chronic fear to mild seizures as well as living with family members who are physically abusive or addicted to drugs or alcohol can make a child seem hyperactive, quarrelsome, impulsive, or inattentive.<sup>22</sup>

This patient's care utilized Chiropractic adjustments to remove the interferences that were not allowing her body to adapt to stress. These adjustments affected pathways that carried electrical impulses via synaptic connections as well as the flow of neurochemicals to the receptor sites affecting the relationship between the learning centers of her brain and her emotional states.

The importance of multidisciplinary approaches for the care of children labeled with behavioral disorders such as ADD/ADHD cannot be overemphasized.

The criteria that is being used to assess children prior to prescribing psychiatric drugs is questioned by some psychiatrists. Dr. Joseph T. Coyle, Harvard Medical School, sees the lack of multidisciplinary clinics that bring together pediatric, psychiatric, behavioural and family dynamic expertise for evaluation of behaviourally disturbed children as a contributing factor to the increasing numbers of children that are now subjected to quick and inexpensive pharmacologic fixes.<sup>23</sup>

I would like to see more pediatric health care providers working together with chiropractors to offer a less invasive approach to helping the increasing numbers of children struggling with learning challenges.

	21-Jul-04	28-Jul-04	4-Aug-04	13-Aug-04	19-Aug-04	14-Sep-04	22-Sep-04	29-Sep-04
<b>Sleeping</b>	3	3	4	6	4	2	6	5
<b>Appetite</b>	6	7	4	6	3	5	6	6
<b>Behavior:</b>								
Attention Span	5	5	5	6	5	5	5	5
Irritability	8	7	7	4	4	4	2	5
Aggression	8	7	8	4	4	6	7	5
Withdrawn	3	4	2	2	5	2	2	2
Nervousness	5	4	2	3	5	4	3	2
Depression	2	2	2	2	2	2	2	2
Memory Retention	5	5	5	5	6	5	5	5
Energy Level	8	8	8	7	6	7	6	6
Listening Ability	5	5	6	7	7	6	6	6
Project Completion	5	5	6	5	6	5	5	6
Organization Skills	3	4	4	4	5	4	4	5

**Table 1- Weekly Assessments**

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