

# **Chiropractic Care of Pediatric Nonmusculoskeletal Conditions: A Case Series.**

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## **Introduction:**

A call has been made for more rigorous scientific inquiry to examine the value of manipulative therapy in the treatment of pediatric conditions [1]. Simultaneously there have also been inquiries by our scientific community attempting to isolate what subset of patients with nonmusculoskeletal conditions might respond to chiropractic care [2-5]. While there is a scarcity of published literature relating to the chiropractic treatment of nonmusculoskeletal conditions [6], particularly of pediatric patients, some degree of evidence for this care has been found in the literature [7-23]. This paper attempts to facilitate a glimpse into a chiropractic clinical practitioner's office where nonmusculoskeletal conditions are routinely being treated.

There are some specific difficulties with performing research with children, this is because: (1) Information is usually gathered second hand from their parents or via parent/doctor observation; and (2) randomized controlled studies have limitations since children by nature of their age are not considered competent to give consent to participate in experimental studies. While randomized controlled studies are the preferred option for investigative studies, observational studies may also offer valuable information [24]. Case reports have a tendency to represent a positively biased presentation of selectively chosen patients by a doctor, yet still in some instances they may offer an important glimpse into what is taking place in chiropractic clinical practice.

## **Methods:**

As standard practice of this office for follow up, patient control, and management, parents of an active group of pediatric patients (2000-07) were (n=127) sent a questionnaire via the mail. The questionnaire inquired about follow up information on their child's response to care. For the purposes of this case series children treated for nonmusculoskeletal symptoms (n=37) out of those who responded to the questionnaire were used for this case series. Data were extracted from questionnaires that met the above inclusion criteria and were entered into a SPSS spreadsheet for tabulation. All pediatric patients were treated by the same clinician. In all cases active chiropractic care consisted of sacro occipital technique and cranial pediatric treatments [25-7], 5/37 cases ancillary procedures were used to improve neurological function including: cross patterning, biofeedback, early intervention, and targeted exercise were utilized, and in 4/37 nutritional support or homeopathic allergy desensitization was utilized.

## **Results:**

65/127 parents responded from our standard follow up outreach and 37/65 were treated for nonmusculoskeletal presentations (Table 1). Of the 37 (17♂, 20♀)

nonmusculoskeletal pediatric patients, 5 were treated for immune *dys*function, 7 for developmental delays/dysfunction, 9 for birth trauma, 1 for seizure activity, 4 for learning problems, 3 for endocrine problems, 3 for migraines, 2 gastrointestinal issues, 2 for fussiness/agitated/anxiety, and 1 for enuresis.

Immune *dys*function presentations (n=5, 3♂, 2♀) consisted of children (1.2-6 years old) with allergies, asthma, ear infections, eczema, chronic congestion, and chronic recurring coughs, needing between 5-20 (average 11.4) office visits until significant improvement was noted. Developmental delays/dysfunction presentations (n=7, 4♂, 3♀) consisted of children (5 months-6 years old) with difficulties with verbal skills, motor skills/coordination, ambulation, visual dysfunction, and tics – vocal and physical, needing between 5-14 (average 10.1) office visits until significant improvement was noted.

Birth trauma presentations (n=9, 5♂, 4♀) consisted of children (3 days-1.8 years old) with secondary birth difficulties due to c-section, vacuum delivery, premature birth, and nursing difficulties, needing between 1-12 (average 5.5) office visits until significant improvement was noted. Seizure activity presentations (n=1♀) consisted of a child 3.8 years old, significant improvement was noted after one treatment. Learning problem presentations (n=4, 3♂, 1♀) consisted of children (2.4-13.4 years old) with ADD, ADHD, Asperger's Syndrome, and verbal issues, needing between 1-9 (average 6) office visits until significant improvement was noted. One of the four children (male 7.25 years old) received 28 office visits and while showing improvement of objective findings his ADHD, focus and impulse control issues did not respond to care.

Endocrine problem presentations (n=3♀) consisted of children (8.6-14 years old) with low HGH/stature, menarche symptoms, and thyroid dysfunction, needing between 3-18 (average 13) office visits until significant improvement was noted. Migraine headache presentations (n=3, 1♂, 2♀) consisted of children (8.3 – 14 years old) needing between 1-6 (average 3.3) office visits until significant improvement was noted. Gastrointestinal dysfunction presentations (n=2, 1♂, 1♀) consisted of children (2 weeks and 1 year old) needing between 2-6 (average 4) office visits until significant improvement was noted. Patients (n=2♀) seen for fussiness/agitated/anxiety were 2 and 3 months old needing between 1-5 (average 3) office visits until significant improvement was noted. One female patient (9.4 year old) presented with enuresis needing 14 office visits until significant improvement was noted.

## **Discussion:**

A challenge in evidence-based healthcare is integrating historically successful clinical practice with current published research. Before the benefit of an intervention is investigated reasonable study into possible risks should be *determined*. A 3-year retrospective study of pediatric patients younger than 3 years of age (n = 781) from the Anglo-European College of Chiropractic (AECC) teaching clinic practice in Bournemouth, England determined that chiropractic manipulation produced very few adverse effects and was a safe form of therapy in the treatment of patients in this age group [28]. In one study investigating chiropractic therapy a survey of practitioners

found of the 812 clinical cases, 717 indicated experiencing an improvement with their presenting symptoms, while 9 patients reported treatment-related aggravations. These were described as “soreness” or “fussy.” No treatment-related complications were reported [29]. Another similar study this one a survey of parents (n=389) of the children (n=389) receiving care (n= total of 3048 office visits) no treatment-associated complications were reported. Two cases (“soreness and stiffness”) of treatment-related aggravation were reported but were self-limiting [30].

Developing a pediatric chiropractic evidence base, particularly one for nonmusculoskeletal conditions, for practicing doctors would likely start with expanding the doctor’s knowledge of pediatric diagnosis and treatment options. This process could involve a certification process such as one by the International Chiropractic Pediatric Association (ICPA) *that* has postgraduate 180-hour certification and 360 hour *diplomat* programs.

Implementing chiropractic adjustive techniques on newborns, infants, and young children is completely different from dealing with the adult patient so learning appropriate chiropractic therapeutic interventions to mitigate any adverse response to treatment [31] may be important. Sacro occipital technique (SOT) has protocols that are indicator based and offer the low force techniques may be better applied to a young child. Cranial techniques, which are part of SOT’s system of analysis and treatment maybe indicated to address some newborn and developmental conditions. The Sacro Occipital Technique Organization – USA (SOTO-USA) like the ICPA also has a certification program to ensure that practitioners treating pediatric patients have appropriate training. It seems reasonable that chiropractic pediatric practitioners who are using SOT and cranial procedures are adequately trained in pediatrics and *SOT*/cranial care, possibly through certification programs. Part of this training should be to know when it is appropriate to refer patients for emergency care and working within a complementary and alternative medicine (CAM) arena [32-4].

This case series was based on a response to questionnaires sent *mainly* to parents of children receiving *ongoing* care at this office. It is possible the success in treatment (N=36/37) for nonmusculoskeletal pediatric patients in this case series was high because only the parents of patients that were satisfied with their child’s care and those who had a positive response chose to respond to the questionnaire.

### **Conclusion:**

Since it does appear from this case series that both pediatric nonmusculoskeletal conditions may benefit from SOT and cranial pediatric adjustive techniques there is a greater need to investigate whether these responses to care are individualized to one practitioner or can be generalized to the chiropractic profession. It is of importance to investigate if chiropractic pediatric adjustive techniques that include treatment of nonmusculoskeletal conditions, are actually accomplishing what they purport. Treatment with controls and possibly some sham procedures may be worth greater study [35]. Of essence is integrating successful chiropractic clinical practices treating pediatric patients

with nonmusculoskeletal conditions and the investigations of the chiropractic research community so that each faction is not functioning independent of one another, thus limiting the building of an accurate evidence base.

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Table One

Symptom/Condition Category	N=37 Breakdown	Age Range	Average # of Adjustments	Gender	
Immune System	5	1.2 - 6 years	11.4	3	2
Developmental Delays/Dysfunction	7	5 mos. - 6 years	10.1	4	3
Birth Trauma	9	3 days - 1.8 years	5.5	5	4
Seizure Activity	1	3.4 years	1		1
Learning Problems	4	2.4 - 13.4 years	6	3	1
Endocrine Problems	3	8.6 - 14 years	13		3
Migraines	3	8.3 – 14 years	3.3	1	2
Gastrointestinal Issues	2	2 weeks - 1 year	4	1	1
Fussiness/Agitated/ Anxiety	2	2- 3 months	3		2
Sleep Problems	1	9.4 years	14		1