# Gonstead Chiropractic care and Atopic Eczema

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**Abstract**

Atopic hypersensitivity and it's varied presentations (asthma, rhinitis, eczema and/or hayfever)[1] is one of the great modern day medical challenges. Many wide and varied theories exist for the surge in numbers, of children in particular, being diagnosed with one of the variants of atopy. Some research suggest that Chiropractic care may offer a possible option in the treatment of such conditions. Chiropractic has been shown to improve spinal function which has been demonstrated to have a direct impact on the immune system.

**Key words**: Gonstead, chiropractic, child, adjustment, eczema, immune system

## Introduction

The chiropractic profession appears to continue to attempt to validate its position in the health care arena through research in the reductionistic and mechanistic medical paradigm of the “treatment of musculoskeletal conditions”. Despite this continued effort and positive research findings and clinical outcomes, the demand for more “validating research” only grows.

The role of chiropractic care in non-musculoskeletal conditions (commonly referred to as “type O disorders”) is a source of much contention, both within the chiropractic profession itself and within the greater health care arena.

The purpose of this case study is to demonstrate that the principles and application of Gonstead chiropractic care has a scope beyond the “treatment of musculoskeletal conditions”.

## Case History

A 12 yr old female presented with neck pain following a fall off a swing in which she landed on her neck and head approximately one week prior. At the time of the fall the patient was checked for concussion and other major injuries at hospital. The neck pain was aggravated by generalised neck movements, especially flexion. No change was reported in sleep, concentration or general mood.

At the time of presentation, the mother raised some concerns regarding her daughter's skin. She explained that she had suffered with eczema most of her life, but since the fall, the skin on her right arm had become significantly inflamed and itchy. Corticosteroid creams, moisturisers, baths and dietary changes had all be used in the past with limited impact on the skin.

No other health concerns were raised by the mother.

**Clinical Findings/Chiropractic Assessments**

A full Gonstead chiropractic examination was performed, beginning with the nervoscope.

Nervoscope "breaks" were identified at C7, T3, T8 and L5.

Static palpation revealed oedema at C7, T8 and the superior pole of the right sacro-iliac joint. Point tenderness was elicited at the tip of the C7 spinous process, T8 spinous process (predominately when the patient was flexed forward) and at the superior pole of the right sacro-iliac joint. Trigger points were located in the right suboccipital musculature, right upper trapezius and right gluteus medius muscles.

Motion palpation revealed fixation at atlas (on the left), C7 and T8 vertebral levels and the right sacro-iliac joint.

Postural observation demonstrated a "narrow and bunched" right gluteal muscluature and a significantly "bulking" of the right trapezius muscle. Some spasticity of the right paraspinal musculature extending from the lower cervical spine in to the mid thoracic spine was also observed. No discernable difference was observed in neck and head posture.

All neurological and orthopaedic tests were negative except for the scapulo-humeral reflex of shimizu, which was positive on the left.

Observation of the skin of the right arm was also noted. Inflamed and dry skin (matching the appearance of eczema) was observed over the right bicep region, over the medial forearm and over the last 3 digits (reflective of the C7 & C8 dermatomes).

**Radiographic Examination**

AP film

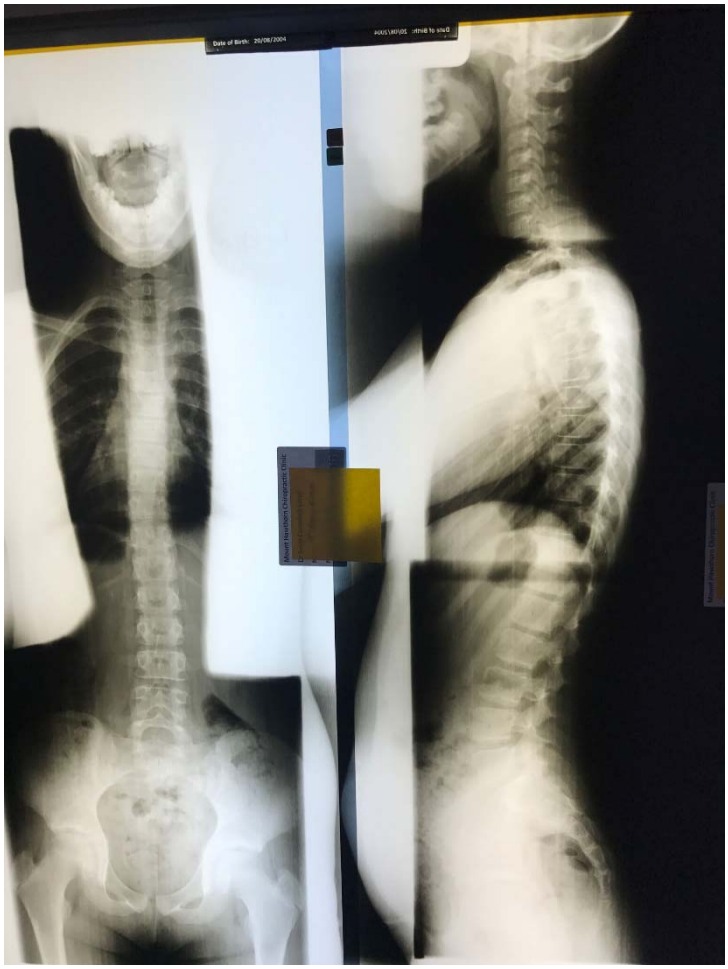
Gonstead pelvic line analysis revealed a right EX (externally rotated) ilium (matching comparative obturator foramen shape). A small left posterior rotation of the sacrum was noted (52:49) with non-conforming lumbar vertebral body rotation.

Lateral film

Line analysis of the lateral film involved "disc plane lines" being drawn and extending posteriorly beyond the spine and soft tissue shadows. These lines are used as a reference indicating the potential posterior (and inferior) of the vertebral body on its disc. In the cervical and lumbar regions, comparison is made of the convergence of these plane lines. Greater convergence compared to levels above indicate a potential posterior-inferior segment. In the thoracic spine, due to anatomy of facet joints and presence of rib cage, together with the spine being in a kyphotic curve, it is less convergence and more of a "less divergence" which can indicate a posterior-inferior segment.

Upper cervical line analysis revealed a potential AS (anterior-superior) atlas subluxation. This was considered with some hesitation considering the significant reduction in the normal curve. Further lateral film line analysis identified a posterior-inferior C7 and a posterior T8.

In the lumbo-sacral region, it was noted that the sacral base angle and lordosis were neutral (ie not increased or decreased). Furthermore, observance of the existing sacral segment discs was noted. In particular, the opening posteriorly of the S1-2 disc and the opening anteriorly of the S2-3 disc was indicative of a posterior 2$^{nd}$ sacral segment.



**Chiropractic Analysis**

Based on the clinical and radiographic findings described, the following Gonstead chiropractic listings were the results of the chiropractic analysis -

ASLP

C7 PRS-inf

T8 PLS

S2 posterior

**Chiropractic Care & Results**

It was determined that in the primary subluxations to address were the C7 and T8 given the nature and mechanism of the fall which lead to the patient presentation.

Both of these were adjusted three times of the following 10 days (C7 sitting in the cervical chair and T8 prone on the hi-lo), with steady improvement, both in spinal function and skin appearance and itchiness. Both the C7 and T5 were adjusted once more, separately, over the following 6 months, with no recurrence of the skin irritation.

Exactly 11 months after the initial consultation, the patient presented with no neck pain, but eczema covering her entire body. The skin had been progressively getting worse over the preceding week, with no known causative agent.

At this presentation a significant nervo-scope break was identified at the L5-S1 region. Static and motion palpation indicated a likely subluxation at S2, which was adjusted using a finger push move with the patient right side down. One week later, the patient returned with very minimal improvement in the skin. Examination revealed a nervo-scope break in the upper cervical region. Static and motion palpation supported the presence of an atlas subluxation, ASLP, which was adjusted with the patient sitting in the Gonstead cervical chair.

A phone call 48 hrs later from the mother confirmed a significant improvement in the skin, with the eczema completely healed within 4 days of the adjustment.

**Discussion**

Atopic hypersensitivity is a complex disorder with different clinical expressions (asthma, rhinitis and hayfever, and eczema) that share as a common feature the excessive production of immunoglobulin E (IgE).[1] In particular, atopic eczema is an inflammatory skin disease with the main focus of inflammatory change located in the epidermis.

Atopic eczema is a common presentation, affecting 5-10% of school children and 2-10% of adults. Such patients account for 10-20% of all referrals to dermatologists and about 30% of dermatological consultations in general practice.[1]

The seemingly uncontrollable rise in the occurrence of atopy is leading to changes in many recommendations within varying aspects of child health care, especially with consideration to immune function and development. Currently, significant research focus is being placed on topics such as the role of maternal health during pre, during and post pregnancy, breast feeding duration and the timing of the introduction of known high allergen foods (eg peanuts, dairy, eggs).

Breastfeeding, or more specifically long term (up to 1 year) breastfeeding has been strongly supported as a factor in the prevention of atopy. Breastfeeding appears to confer long term protection against allergic sensitisation. The exact mechanisms are poorly understood, but several multi-level mechanisms have been proposed. It appears that long term breast feeding (at least 6 months for eczema) is a prophylatic against atopic disease, the effect

extending into adulthood.[1] More recent research is investigating the role of maternal stress as a means of compromised protection from breast feeding.

However, central to much of the neuro-immunological study of conditions such as atopic eczema is an understanding of the immune system at a cellular level, in particular, the balance of Th1 (T-helper cell) and Th2 cells and the cytokines they produce. Th1 cells are predominantly involved in pro-inflammatory immune responses to viruses, bacteria, fungi and tumours. Th2 cells are involved in the anti-inflammtory defence against allergens, chemicals and parasites.[2] Many researchers regard allergy (eg atopic eczema) as a Th2 weighted imbalance and recently immunologists have been investigating ways to redirect allergic Th2 responses in favour of Th1 responses to try to reduces the incidence of atopy. Strategies such as high dose exposure to increase the Th1 response in established disease are currently being investigated.[3]

An additional line of investigation involves the study of pregnancy and early post natal life, both of which are heavily Th2 states (in order to reduce the risk of miscarriage, a strong Th2 response is necessary to modify the Th1 cellular response in utero). Due to pregnancy being chiefly a Th2 state, babies are born with a Th2 based immune system.[2] As a result, any situation which influences the health of the mother (ie stress) pre, during or post pregnancy will significantly impact the balance of the child's immune system.

According to Japanese researchers, there is a potential cause and effect relationship between spinal misalignments, compromised immune function and allergic conditions such as eczema and atopic dermatitis in both adults and children. Results of the study in 2003 propose that chronic nerve dysfunction is secondary to vertebral misalignment leading to compromised visceral function, in particular glandular dysfunction, resulting in a cascade of neuro-endocrine events leading to compromised immune function at the cytokine and molecular level.[3]

The researchers referred to a state of “neurotripsy”, or chronic nerve dysfunction, caused by chronic narrowing of the intervertebral foramina due to the spinal dysfunction. This neurotripsy resulted in “the reciprocal innervation between the brain and the organs being continually and severely impacted”.

Furthermore, according to the researchers, due to the chronicity and severity of this compromised neurological function, the following cascade of events is highly probable –

1. Chronic and various reciprocal innervation between the brain and glandular end organs.
2. Chronic hormone secretion dysfunctions by glandular end organs based on the reciprocal innervation.
3. Chronic negative feedback loops related to the glandular end organs based on intracerebral stimuli.
4. Chronic stress hormone levels.

If the “human stress response” is chronically engaged, and the presence of stress hormones are in excess, further imbalances in the immuno-endocrine system will emerge.

5. A limitation at the cellular and molecular level to the production of various cytokines (eg. IL – 4,5,13 and TNF).
6. An inhibition to the production of IgE.
7. A dysfunction in the activity of helper Th2 cells.[3]

The “human stress response” is highly governed by the autonomic nervous system, the complex balance of the sympathetic and parasympathetic nervous systems. The neurology directly associated with the “stress response” is dominated by the sympathetic nervous system. Physiological changes such as increased blood pressure, increased heart rate and down regulation of “non-short-term-life saving” functions such as the digestive system, reproductive system and the immune system (shift in the balance of Th1 vs Th2 ie decrease Th1 and excess Th2 activity)[4] are all occurring in an individual under some form of physical, chemical and/or mental stress.

Throughout much of the Gonstead Chiropractic literature, an understanding of the autonomic nervous system is emphasized in its role is dis-ease. Dr Gonstead is regularly quoted describing the origins of the parasympathetic vs sympathetic nerve fibres and the opposing effects they have upon various structures in the human body. Dr Gonstead described the divisions within the autonomic nervous system and changes occurring with adjustments to both the sympathetic and parasympathetic components as the foundation of his management of visceral or “type O” cases. According to Dr Gonstead, the parasympathetic nervous system was primarily affected by adjustments to the spinal regions of occiput to C5 and the pelvis including the sacral segments and L5. Subluxations in these regions of the spine would result in nerve pressure creating an increase or “speeding up” in the function of the organ. Conversely, the sympathetic nervous system is controlled by C6 to L5 and subluxations would cause a reduction or “slowing down” in function. The fifth lumbar nerve root is included within both systems as it has varying functions to both components of the autonomic nervous system.[5]

The previously mentioned Japanese researchers concluded “that fundamental to the treatment of diseases such as atopy, is the improvement of the chronic narrowing of the intervertebral foramen secondary to vertebral dysfunction...and the improvement of the dysfunction at the end organ...”. They went on further to conclude “that there is an expectation of alleviation and prevention of development of symptoms by correcting the changes in the vertebrae caused by chronic vertebral dysfunction....”.[3]

In this case there appears to be two different neurological effects following improved spinal function upon the immune system. Firstly there is the local impact, the adjusting of C7 and the direct impact upon one spinal nerve and the resulting impact upon its dermatomal supply (ie adjusting C7 and the improvement of the skin over the arm). Secondly, following the adjustment of the atlas, the rapid change in the skin on a global level. It is proposed that the adjustment to the atlas stimulated the parasympathetic branch of the autonomic nervous system, thereby normalising the neuro-immunological physiology associated with the sympathetically dominated "human stress response".

## Conclusion

Since its introduction into the health care arena, Chiropractic care has witnessed and contributed to changes in health conditions seemingly non-related to spinal, musculoskeletal problems. At times, many of the mechanisms behind such improvements were unable to be recognised or understood. However, with the growing appreciated of the impact of spinal function on neurology and ultimately the immune system, a greater understanding of these mechanisms is emerging. As with all case studies, the purpose of this paper is to encourage further investigation into these mechanisms.

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