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ASRF CASE REPORT PROJECT

Decreased thigh pain and increased mental acuity and physical performance in a 26-year-old male under Chiropractic care: A case report

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Background: A 26-year old male testicular cancer survivor presented for Chiropractic care with a primary complaint of intermittent thigh pain.

Intervention: The patient underwent a course of subluxation-based Chiropractic care during which he was checked and adjusted using Advanced Bio-Structural Correction Technique.

Outcome: Despite a singular presenting concern of intermittent thigh pain from an four-year-old injury, he returned numerous other positive outcomes he attributed to Chiropractic.

This presents numerous questions as to the body's state of adaptability even years after cancer, and the role Chiropractic may play in building up this adaptability again over time.

Indexing Terms: Chiropractic; Subluxation; mental acuity; testicular cancer; thigh pain; adaptability.

Introduction

As chiropractic moves away from neck and back pain alone and further into whole-of-nervous system care, it is vital that we understand the broader impacts of Chiropractic on a person's state of adaptability. Whether this manifests as a major health crisis, a minor ache or spasm, or simply an increase in mood and mental acuity is a matter for the nervous system and the body to decide. The patient retains the right to present for care with any issue at all.

> *'... the role of Chiropractic care may be an important part of a person's care regime when it comes to increasing adaptability. For cancer survivors, this may be especially important as the whole body recovers and adapts to its future ...'*

This case report will discuss the case of a cancer survivor presenting for care with a primary musculoskeletal complaint, but reporting increased mental acuity among other outcomes.

This is not the first case to report improvements in health outcomes in

patients under Chiropractic care with a previous cancer diagnosis. Two case reports were published in a previous release of the *Australian Spinal Research Foundation's Case Report Project* (2023) which detailed the management of individuals with prostate cancer, one in remission and one with a terminal diagnosis. (1, 2) In both cases the Chiropractor did not aim at treating the cancer, but at improving secondary symptoms, mental health and functioning, and the general quality of life of the patients (who remained under appropriate oncological care).

Beyond these cases alone there is an interesting conversation to be had regarding some areas in which Chiropractic, adaptability and emerging research come together. Research has indicated that the autonomic nervous system, and especially the vagus nerve, may have an inhibitory effect in tumour initiation, and that heart rate variability (HRV) may be an important indicator of cancer survival. (3, 4) Likewise, research has indicated that cancer survivors may have reduced HRV sometime after treatment. (5)

On the Chiropractic side of the coin, HRV is an indicator of nervous system adaptability that, while limited in its time span, gives insight into the state of a person's autonomic regulation. HRV has been a topic of some interest in Chiropractic circles, with numerous case reports and case series' noting improvements in HRV alongside improvement in musculoskeletal complaints concomitant with Chiropractic care. (6) All this is to say that care for the nervous system, vagus nerve activity and HRV come together to create an impetus for nervous system care that increases adaptability such as that indicated by HRV and vagal tone.

That is, the role of Chiropractic care may be an important part of a person's care regime when it comes to increasing adaptability. For cancer survivors, this may be especially important as the whole body recovers and adapts to its future.

Case details

A 26-year-old apprentice mechanic with a moderate activity level presented for Chiropractic care with a primary complaint of intermittent left anterior thigh pain. The patient, who had limited experience with Chiropractic, reported that the pain started approximately four years prior to his presentation. Initially, the issue started at the gym while doing squats. He was returning to a standing position but the leg buckled inwards and he suffered a sharp pain in the thigh area.

Originally, the pain only lasted for a minute or so, and he was then able to continue normally with workout without any pain. A few days later, pain returned when not exercising and it '*stayed sore for 20 mins*'. The pain remained intermittent over the course of four years with some reduction and stabilisation over time, but no full remission was achieved.

History and examination

Upon presentation an intake history and examination was undertaken. Relevant medical history included testicular cancer at age 21, with subsequent orchidectomy. The patient also had an extensive past trauma history including: fractured big toe on the right foot, fractured fingers from punching a wall, stress fractures in his foot two years prior, fractured kneecap from a bicycle accident nine years prior, and a fractured collarbone and elbow in childhood.

When the patient's clinical examination was undertaken by the Chiropractor, numerous notable findings were returned. A *Carter* examination was performed with positive findings (Left *Gluteus Maximus* 4/5 MMT, Right *Gluteus Medius* 4/5 MMT, and Bilateral *Opponens* 4/5 MMT). The patient had moderate difficulty performing heel-to-toe balance with eyes closed. Cervical range of motion was mildly limited in bilateral rotation, and extension. *Kemp's Manoeuvre* was positive on the left. The patient's leg itself seemed unremarkable.

Radiographic examination demonstrated a biphasic scoliosis measuring 17° convex to the right from T4-T8 and 17° convex to the left from T11-L2. An 8mm Iliac crest height deficiency on the left was also demonstrated.

Manual muscle testing, active range of motion and eyes-closed heel-to-toe balance (proprioception) tests were used in addition to the above. The patient was found to be in Phase One subluxation degeneration at C4, C6, T12, and L5.

Management

Following the examination, the patient commenced a twelve week course of care during which he was checked and adjusted twice per week using the Advanced Bio-Structural Correction Technique. Additional care recommendations including daily exercise and movement such as walking, running and swimming.

The aims of care were to correct and stabilise the found subluxations, prevent further advancement of the subluxation degeneration pattern, improve his active range of motion, and reduce occurrence of intermittent pain.

Outcomes

A review was undertaken at the conclusion of the patient's care plan. At this time, a *Carter* exam two only returned two rather than three positive findings (Right *Iliopsoas* 4/5 MMT with painful click and Bilateral *Opponens* 4/5 MMT). Active range of motion tests continued to show mild restriction in the cervical spine (in left rotation, flexion and right lateral flexion) and in the Lumbar Spine in flexion though the latter was due to hamstring tightness.

Left *Kemp's* remained positive, although this had reduced significantly to a feeling of tightness rather than pain.

The patient also filled out a questionnaire regarding his care and progress. He rated his progress as a 7 out of 10 on a numerical scale, and while his reason for commencing Chiropractic care was his concern with his sore leg, he reported improvements in the following:

- More relaxed
- Stronger
- More energy
- Better memory
- Thinking more clearly
- Improved mood
- Improved sleep
- Improved performance
- Increased flexibility

He also reported less pain and significantly more alertness.

When asked what his top three 'wins' were since his last examination, he remarked that decreased brain fog, improved moods, and motivation returning to normal were of most benefit to him.

In particular, the patient noted a marked improvement in mental acuity, giving examples like improved memory and recollection, recalling words/names/phrases that used to be '*on the tip of the tongue*' and so on. This improvement in mental acuity seemed to be much more meaningful and substantial to the patient than the improvement in his pain occurrence. While the pain in his leg had decreased somewhat, and continued to improve, it had not yet resolved.

Discussion

The ramifications of this case report extend beyond quality of life, even though this aspect alone is significant. Improved pain and performance means the patient can engage in their professional pursuits with less apprehension. In particular, the patient was training to become a reservist and had hesitations about seeking treatment for recurrent leg pain.

The unexpected outcome of improved mental acuity meant better conversation and less relationship stress with his partner, which also adds a layer of decreased stress and increased quality of life.

A confounding element of this case report is that we do not have any objective measures as to how well his nervous system's ability to adapt had returned post-cancer. What we do know is that the increased sense of mental acuity points to a need for further investigation into the impact of Chiropractic care on mental clarity and acuity. Beyond this, it may also be beneficial for Chiropractors to investigate the role of subluxation-based care in the reversal of cognitive decline.

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About

Dr Hawkes has been a practising chiropractor for over a decade and is currently practising in Mount Hawthorn, Perth, WA.

David is passionate about family wellness care and works with many people who suffer from headaches and migraines. While these are passion points, Dr David serves a broad spectrum of practice members.

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.

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