Case Study

Resolution of Fatigue, Malaise & Depression in a 30 Year Old Male Following Subluxation-Based Chiropractic Care Utilizing Gonstead Technique: A Case Study

Abstract

Objective: This case study describes the effects of subluxation-based chiropractic care on the management of a 30-year-old male with fatigue, malaise and depression.

Clinical Features: A 30-year-old white married male presented with the chief complaint of general tiredness, fatigue, loss of energy and depression. The patient history also revealed complaints of occasional headaches and acid reflux.

Interventions and Outcomes: Over an eight-month period of time, the patient received specific intersegmental chiropractic care via the Gonstead Technique for reduction of vertebral subluxation. 46 total adjustive procedures were administered over 22 office visits. SF-36 general health survey was utilized to document patient progress at two-month intervals. Data analysis demonstrated significant improvement particularly in the areas of General Health, Mental Health, and Mental Component Summary, correlating with subjective patient reporting.

Conclusion: This case study demonstrates the efficacy of subluxation-based chiropractic care for the management of fatigue and malaise in a single patient. Following eight months of care via the Gonstead Technique, the patient’s symptoms of fatigue and malaise were reduced, and objective health measures via the SF-36 noted marked improvement in multiple areas.

Key Words: Gonstead Technique, chiropractic, Nervoscope, vertebral subluxation, fatigue, malaise, depression, SF-36, adjustment

Introduction

Generalized fatigue and lack of energy is a common symptom presenting to a primary care physician, “accounting for about 5% of adult visits.”1,2 It is a nonspecific symptom that may be related to a vast number of medical and psychiatric illnesses, or as a side effect to the medications that are used in treatment of those illnesses.1 Persistent fatigue that is severe enough to affect social or occupational activities presents challenges for health care providers in diagnosis and management as determining the cause of fatigue may be difficult.1,3 Causes of fatigue are divided into organic and psychogenic.2 These may include acute infection, chronic infection, autoimmune conditions, neurologic disorders, primary muscle disorders, endocrine and metabolic disease, anemia, nutritional deficiency, circulatory disorders, pulmonary insufficiency, neoplastic disorders, psychologic disorders, chronic drug intoxication and lack of sleep.2 If the cause is undiagnosed and the fatigue is severe enough, the diagnosis of chronic fatiguing illness or chronic fatigue syndrome is given. “Chronic fatigue syndrome is a complex illness […] and is accompanied by symptoms of prolonged post exertional malaise, unrefreshing sleep, impaired concentration and short-term memory, muscle or joint pain, headache, sore throat and tender lymph nodes.”4

The prevalence of chronic fatiguing illnesses have been reported to be between 0.2-2.6%.5 One metabolic cause of low energy and fatigue is hypothyroidism. Hypothyroidism is defined as any metabolic state that results from a decrease in the amount of circulating thyroid hormones in the body.5 Classifications of hypothyroidism include severity, which can be overt (clinical) or mild (subclinical).5 Subclinical hypothyroidism is characterized by elevated TSH concentrations associated with normal thyroxine (T4) and

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triiodothyronine (T3) serum levels. It is important clinically, however, to note that the manifestation of hypothyroidism may vary and often does not present as the textbook describes. The symptoms of hypothyroidism can be subtle but have a significant impact on mood, behavior, and cognitive function due to the brain’s high sensitivity to subtle thyroid insufficiency.

The conditions described above are not necessarily the diagnoses that are present in this case study. In determining the efficacy of chiropractic care in reducing symptoms of fatigue and malaise, however, exploration of possible etiologies and pathophysiological is necessary.

The Gonstead Technique

Developed by Clarence Selmer Gonstead, D.C. (1898-1978), the Gonstead Technique involves multiple aspects of clinical diagnosis and analysis to determine the hand-delivered intersegmental chiropractic adjustment necessary. Analysis for vertebral subluxation includes visualization, instrumentation, static palpation, motion palpation, X-ray analysis, and case history consideration. Once the locations of joint dysfunction and neurological compromise, that is, the Vertebral Subluxation Complex (VSC), are determined, the skilled chiropractor chooses the best clinical approach to adjust the spine in efforts to reduce or correct the VSC and decrease patient symptomatology. According to the Gonstead Clinical Studies Society, “The focus of the Gonstead adjustment is to be as specific, precise and accurate as possible, addressing only the problem areas (areas of subluxation). Great care is taken to ensure a bio-mechanically correct position and precise thrust to provide the most accurate and painless adjustment possible.”

Dr. Gonstead and the development of the Gonstead Technique was highly influential in directing the course of chiropractic studies and the profession as a whole, returning the focus from upper-cervical techniques to full-spine analysis and adjustment. Common to many chiropractic techniques is the side-posture pelvic bench adjustment, wherein the patient lies on his side with the higher leg bent, being supported by the chiropractor. The chiropractor makes contact on the spinous or mamillary process of the desired vertebrae with the heel of his hand (pisiform area) and delivers a perpendicular thrust anteriorly (+Z) of high velocity and low amplitude (HVLA). Also employed in many techniques is the prone single-hand adjustment, wherein the patient lies face-down on a specially designed table to allow the chiropractor to use overlapping hands to deliver an anterior thrust (+Z) in a similar manner as described above. Unique to the Gonstead Technique is the Knee-Chest table, an adjustable device that supports the patient’s head and chest while he is in a kneeling position, allowing greater thoracic and lumbar extension while requiring less adjustable force from the chiropractor. Single-hand type adjustments are utilized with the Knee-Chest table as are with prone adjusting. Also unique to the Gonstead Technique is the Cervical Chair adjustment, wherein the chiropractor stands behind the seated patient, supporting the patient’s head and neck and delivering the adjusting HVLA thrust (+Z, +0X, +/−0Y) with a finger-tip contact on the spinous process or lamina of the cervical or upper thoracic vertebrae. Post-adjustive analysis is performed with instrumentation and motion palpation, and patient progress is documented on subsequent visits subjectively by patient symptomatology and objectively with the aforementioned analysis.

Case Study

History

The patient was a 30-year-old white married male who presented with the chief complaint of general tiredness and loss of energy. He also suffered occasional headaches and acid reflux. The patient described the tiredness as constant mild malaise and lethargy, with occasional feelings of depression or sadness. No specific onset was recalled, but similar symptoms began 12 years prior. There were no particular times of day or during week when the symptoms were the worst, but it was difficult for the patient to wake up and "get going" in the morning. The patient was able to perform all activities necessary to take care of himself and his family, but did not have the additional energy to do activities that would like to, for example fishing, hiking, and additional household projects. The patient did not seek previous medical care for this condition. It was noted that strenuous exercise such as hiking or mowing the lawn helped to increase his energy levels. Moments of increased occupational stress (full-time professor) made the symptoms worse in severity. The progression of the condition had remained the same in frequency, duration, and severity for as long as the patient could remember. The patient was a full-time professor and had a 15-month old child at the time of the history. The patient's observation of family described a history of depression and lack of energy, although not medically diagnosed or treated. Initial SF-36 assessment of physical and mental health status revealed a 36% Mental Component Summary and 47% Physical Component Summary.

Examination

A baseline physical and chiropractic exam was performed following the patient history. The physical exam revealed no physical abnormalities of function or structural deformities. The chiropractic exam included instrumentation via the Nervoscope, visual inspection and palpation of the back, and full-spine A-P and lateral radiographs.

The Nervoscope is a dual-probe hand-held microvoltmeter that indicates temperature differentials of paraspinal tissues. The Nervoscope was an upgrade to the first thermal chiropractic device called the Neurocalometer (NCM), which was invented by Dossa D. Evans, D.C. in 1924, developed by Otto Schiernbeck and popularized among chiropractors by B.J. Palmer, D.C. The original NCM consisted of a hand-held device wired to the meter in a large box. The modern Nervoscope is completely hand-held, with plastic housing, battery, and shielding to protect from radio frequency interference.

Initially, the dual-thermocouple instrument was purported to indicate heat around a spinal nerve root created by “resistance to flow of nerve energy.” This resistance resulted from a “subluxated vertebrae [causing] pressures on a nerve or group of nerves as they pass through or emit from spinal column.” It was later published in 1985 that depth of instrument sensitivity does not reach the nerve roots, but rather the
thermocouples likely measure conductive heat of the subdermal capillary beds radiating from 1-1.8 millimeters below the skin surface.\textsuperscript{13} As the skin vasculature of the back is innervated by the sympathetic nervous system, unilateral changes in sympathetic activation can be detected by comparative thermal readings.\textsuperscript{13,17}

These unilateral changes are explained by the anatomy and neurophysiology of the intervertebral disc and surrounding joints. Several nerves innervate the intervertebral disc and surrounding ligaments: the sinuvertebral nerve innervates the posterior longitudinal ligament and posterior disc, ventral primary rami and grey rami communicantes supply the posterolateral aspects of the disc, the rami communicantes innervate the lateral aspects, and the recurrent branches of rami communicantes supply the anterior longitudinal ligament.\textsuperscript{18} Abnormal movement of these structures or capsule distention due to swelling causes increased nociception and mechanoreception via the nerves noted.\textsuperscript{19,20} Increased afferent neurotransmitter activation to the posterior horn of the spinal cord can spill-over to the lateral horn at the same cord level, stimulating sympathetic nervous system activation.\textsuperscript{21} Increased sympathetic activation causes vasoconstriction of sub-dermal arterioles by way of alpha-adrenergic receptors in the tunica media. Vasoconstriction, therefore, will result in decreased skin-temperature along the dermatome innervated by the same cord level.\textsuperscript{21} If the dysafferentation described is unilateral, a thermocouple instrument will detect the differential between one side of the spine and the other. Identical paraspinal temperatures due to balanced autonomic function or bilateral dysafferentation will not be detected by this type of instrument.

Chiropractic analysis by way of the Nervoscope seeks to locate bilateral skin temperature differences known as “breaks”, which is depicted as meter needle deflections, or “an abrupt ‗over and back‘ needle movement […] over a one spinal segment distance.”\textsuperscript{23} A “break” indicates a location of autonomic nervous system imbalance or dysfunction and is then further investigated by the chiropractor for palpable soft tissue changes and movement abnormalities.\textsuperscript{6} A 1991 study on the reliability of thermocouple instruments revealed fair to substantial interexaminer reliability and moderate to excellent intraexaminer reliability.\textsuperscript{24} A review of literature in 1992 concludes that skin temperature assessment is promising, but a paucity of literature presents strong conclusions from being made.\textsuperscript{25}

Chiropractic examination of this patient initially revealed Nervoscope readings at the upper cervical, upper thoracic, and lumbar sacral areas. On subsequent visits, readings were also noted at the mid-thoracic region. Static palpation revealed areas of edema and taut fibers around the spinouses of vertebral segments C3, C6, T8, L5, and the left lower sacroiliac joint. Motion palpation indicated restricted intersegmental movement of the same segments. Visualization revealed mildly reduced cervical flexion, lumbar extension, and lumbar left lateral flexion. Postural abnormalities were noted to include a left high shoulder, bilateral protracted shoulders, left high ilium, anterior head translation, left head tilt, left foot external rotation, and left short leg. Full-spine A-P and lateral radiographs were negative for overt pathology and were further analyzed according to the Gonstead technique. Since post-treatment radiographs were not performed, this data is not included in this case study.

Diagnoses included malaise/fatigue, chronic tension headache, esophageal reflux, subluxation cervical region, myalgia, subluxation thoracic region, subluxation lumbar region, subluxation pelvis region, and abnormal posture.

A baseline of general health status was obtained at the initial examination and at two-month intervals during the course of care. Short-Form 36 (SF-36) is a survey of a patient’s physical and mental health status. Responses to 36 questions are analyzed and contribute to eight rating scales. These scales include the health components of vitality (VT), physical functioning (PF), bodily pain (BP), general health perceptions (GH), physical role functioning (RP), emotional role functioning (RE), social role functioning (SF), and mental health (MH). (Table 1)\textsuperscript{26} Ratings fall on a continuum between 0-100, where numbers closer to 0 indicate greater disability, and those closer to 100 indicate lesser disability.\textsuperscript{26} The eight scales are further analyzed to form “two distinct higher-ordered clusters” that relate the common physical (Physical Component Summary) and mental (Mental Component Summary) health aspects of each scale.\textsuperscript{27} The MCS and PCS score for an average individual in the United States is 50.\textsuperscript{26} The MH, RE, and SF scales contribute greatly to the rating of the Mental Component Summary (MCS). The VT, GH, and SF components have correlations with both the MCS and PCS.\textsuperscript{26} Several studies have been published regarding the methods, validity, and reliability of this survey.\textsuperscript{27} Reliability for both the MCS and PCS scores are estimated to exceed 0.90.\textsuperscript{28} In a review of literature, it was determined that “the median reliability coefficients for each of the eight scales was equal or greater than 0.80 except for SF, which had a median reliability across studies of 0.76.”\textsuperscript{28,29} Of note for this study, a reliability of 0.93 was reported for the MH component using an alternate method.\textsuperscript{29} Additionally, the MH, RE, and SF scales and the MCS measure demonstrate high validity as mental health measures.\textsuperscript{27}

\textbf{Intervention}

Over an eight-month period of time, the patient was seen 22 times for evaluation and specific chiropractic adjustment for the reduction of VSC. Depending on the chiropractic examination at each visit, between one and three segments were adjusted on each visit. During the course of care, a total of 46 adjustments were delivered. Most frequently adjusted were the following: C7 PRS (+Z, -0Y, +0Z) 6 times in Cervical Chair or prone, T7 PRS (+Z, -0Y, +0Z) 5 times prone, T8 PR (+Z, -0Y) 6 times prone, and L5 PLI-M (+Z, +0Y, +0Z) 7 times in side-posture. Adjusted three times were C3, T2 and left ilium. Adjusted twice were the right ilium, T10, and L3. The segments C1, T4, T6, T9, T11, L1 and L4 were also adjusted once. Reassessments were performed approximately at two-month intervals throughout care to assess and document progress and efficacy of care.

\textbf{Outcomes}

The patient received chiropractic adjustments according to the Gonstead Technique for 22 visits over the course of eight months. Outcome measures included documented subjective reporting by the patient, objective findings via Nervoscope and chiropractic analysis, and SF-36 general health survey.

As care progressed, the patient reported an increase in energy
and positive attitude. His wife confirmed that he was able to complete more responsibilities at home during the week and on weekends with less difficulty and less complaints about low energy or tiredness. Particularly notable to the patient’s family was the increased ability to handle stressful situations well (e.g. the end of college semester or buying a house). The patient was able to engage in two family outings (e.g. fishing or hiking) per week with minimal tiredness by the sixth month of care.

Nervoscope readings presented on each visit decreased in severity but did not decrease in frequency. Upper cervical regions of the spine, activating the cervical sympathetic chain ganglia, which are supplied by sympathetic nerves of the upper thoracic region. While complete loss of thyroid secretion will decrease the metabolic rate of many chemical processes in the human body, low levels of thyroxin, for instance, will decrease the ATP production of cell mitochondria, resulting in symptoms of lethargy and malaise. While complete loss of thyroid secretion will decrease the metabolic activity in the body 40-60%, subclinical hypothyroidism may not present with clinically low levels of T4, T3, or TSH. The thyroid gland is innervated by autonomic derivations of the superior, middle, and inferior cervical sympathetic chain ganglia, which are supplied by nerves of the upper thoracic region. Vertebral subluxation, by way of disc derangement or fixation dysfunction, of the functional spinal unit (FSU) causes dysfunction of the autonomic nervous system. Additionally, disc derangement may result in autonomic dysfunction, as previously described in relation to bilateral skin temperature differentials. Mechanical pressure or nociception due to inflammation or abnormal disc movement returns to the Central Nervous System (CNS) via several nerves in particular: the sinuvertebral nerve, ventral primary rami and grey rami communicantes. Increased afferent neurotransmitter activation to the posterior horn of the spinal cord can spill-over to the lateral horn at the same cord level, activating the sympathetic nervous system. By this somatic-autonomic pathway, biomechanical dysfunction of the FSU can result in alteration of normal afferent neurologic input to the CNS and cause dysfunction of the autonomic nervous system. Autonomic dysfunction may in turn affect the function of visceral organs, which are largely autonomic in innervation.

In this case study of fatigue and malaise, it is postulated that the autonomic dysfunction described above has the potential to influence the function of hormone-producing organs, namely the thyroid and suprarenal (adrenal) glands. Hypo-function of the thyroid gland decreases the metabolic rate of many chemical processes in the human body.

The purpose of this case study was to describe and document the effects of Gonstead Technique subluxation-based chiropractic care on the management of a 30-year-old male with a subclinical diagnosis of fatigue and malaise. Objective indicators utilized in this case study display the reduction of fatigue and malaise and the improvement of mental health status after eight months of chiropractic care. These changes were objectively measured using the Short-Form-36 general health survey and clinical data obtained at the initial examination and at two-month intervals spanning an eight-month timeframe.

While many explanations of the nature of vertebral subluxation exist in peer-reviewed and non-peer-reviewed literature, that of the intervertebral disc dysfunction and fixation dysfunction via the dysafferentation theory will be described here. The intersegmental model of the Gonstead Technique proposes that intervertebral disc dysfunction due to faulty biomechanics and movement patterns of the spine can cause neurological dysfunction through the body. Developed in 1929, the Gonstead Disc Concept explained that subluxation occurred as a result of intervertebral disc dysfunction. The functional spinal unit (FSU), which includes the articulations, intervertebral disc and supporting ligaments, is the entity that allows and controls motion of the spine in three dimensions. Fixation dysfunction of the FSU is considered a component of the Vertebral Subluxation Complex, resulting in the abnormal motion of intersegmental or global regions of the spine. Prolonged fixation dysfunction of the FSU may result in altered somato-autonomic and somato-somatic reflexes, as well as compensatory hyper-mobility and spinal articular degeneration. Plaugher states that “interarticular movement is necessary for the prevention of contracture and adhesion formation.” Collagen fibers are found within muscles, ligaments, cartilage, tendons and fascia. Healing of damaged collagen fibers following trauma or immobility results in haphazard cross-linking adhesions to form between tissue fibers. In turn, the natural healing process of these soft tissue adhesions leads to contracture of the involved tissue. This contracture may further restrict motion of the FSU and perpetuate the dysfunction. The Gonstead Technique attempts to locate the specific area of adhesion within the FSU and disrupt the cross-linking fibers to restore proper biomechanical function.

The functional relationship between the weight-bearing nucleus pulposus and the surrounding annulus fibrosis is critical to the Gonstead Disc Concept explanation of subluxation. As a result of micro- or macro-trauma, the nucleus may dehydrate, altering the weight-bearing properties of the intervertebral disc. Increased pressure on the internal fibers of the annulus results in the formation of fissures through these criss-crossed fibers. Displacement of a portion of the nucleus via sequestration through tears in the annulus fibrosis may result in aberrant motion between vertebral segments.

Initial SF-36 assessment revealed a 36% MCS and 47% PCS. Assessments were repeated at approximately two-month intervals throughout care. Results indicate a consistent increase in both MCS and PCS scores to 49% MCS and 52% PCS at six months of care. This data is enumerated in Table 2 and is illustrated in Figure 1. Scores of MH, RE, SF, and VT increased significantly as well, from 68%-80%, 33.3%-66.7%, 50%-75%, and 26.7%-65%, respectively. Figures 2 and 3 illustrate this positive change.

Discussion

The purpose of this case study was to describe and document the effects of Gonstead Technique subluxation-based chiropractic care on the management of a 30-year-old male with a subclinical diagnosis of fatigue and malaise. Objective indicators utilized in this case study display the reduction of fatigue and malaise and the improvement of mental health status after eight months of chiropractic care. These changes were objectively measured using the Short-Form-36 general health survey and clinical data obtained at the initial examination and at two-month intervals spanning an eight-month timeframe.
cervicothoracic region via specific chiropractic adjustments may reduce the aberrant afferent mechanoreception and nociception to the spinal cord, thus decreasing sympathetic tone and restoring normalized autonomic function of the thyroid gland.

Similarly, vertebral subluxation in the mid- to lower-thoracic region may decrease autonomic function of the suprarenal glands. The sympathetic innervation of the adrenal glands originate from spinal cord levels T8-L2 and travel via the celiac ganglion, celiac plexus, and greater splanchnic nerve. As a result of increased sympathetic tone, decreased secretion of important adrenal hormones, such as cortisol, norepinephrine, and epinephrine, may result in symptoms of fatigue or low energy. Reduction of the vertebral subluxation in the mid- to lower-thoracic region may reduce abnormally high levels of afferent nociception, decreasing the chance of neurotransmitter spill-over from the dorsal horn to the lateral horn and thus reduce over-stimulation of the sympathetic nervous system. Lower sympathetic tone allows the suprarenal glands and parasympathetic nervous system to produce adequate amounts of hormones, reducing symptoms of low energy. While this theory of adjusting the mid- to lower-thoracic region is yet to be proven on a long-term scale, a 2012 study on the short-term effects of upper-thoracic spinal manipulation had no measurable change on the plasma concentrations of epinephrine and norepinephrine.

Allopathic Management of Fatigue

Fatigue is a non-specific symptom that accompanies or is related to many medical and psychiatric conditions or the medications to treat the illnesses. Due to this nature, it may be difficult to determine the cause of fatigue. Spear states that “in about half of all cases, no specific etiology is found.”

Subclinical hypothyroidism may present with symptoms of malaise and undue fatigue. While standard blood tests for T4, T3, and TSH may be normal, a protein-bound iodine (PBI) test may prove positive for subclinical hypothyroidism. If this is determined to be the cause of patient symptomatology, a medical regimen of thyroid hormone is initiated and monitored with the PBI test. An article published in 2005 in the journal Chiropractic and Osteopathy discusses the biopsychosocial model in its relation to hypothyroidism. Described therein, “the biopsychosocial model states that ill health and disease are the result of an interaction between biological, psychological and social factors.” This emerging perspective on health expands the biomedical model to make the distinction between the patient’s perception of health and the pathophysiological processes that cause the disease. This model may apply to subclinical cases where subtle thyroid insufficiency may be caused by psychological and social factors in addition to biological disruptions.

Chronic fatigue or chronic fatigue syndrome is often a resultant diagnosis when all other disease processes have been ruled out. When no specific cause of chronic fatigue is determined, medical care of the patient shifts to symptom management and coping strategies, such as cognitive behavioral therapy and graded exercise therapy. Medication including stimulants and antidepressants such as Duloxetine may be considered to treat mood and pain symptoms as well. Alternatively, focus on treating concomitant insomnia with chronic fatigue has been found to be effective in reducing the symptoms of fatigue. A study published in 2007 explored the utilization of complementary and alternative medical (CAM) therapy for management of chronic fatigue illness or chronic fatigue syndrome. This study considered CAM treatment to include the services provided by naturopaths, chiropractors, social workers, nutritionists, acupuncturists, and other health care professionals. A survey of 455 fatigued persons and 444 non-fatigued persons revealed that “CAM use in fatiguing illness is more prevalent than it is in non-fatigued persons.” Specifically, body-based therapies and mind-body therapies were “significantly more likely to be used by persons with chronic fatigue or CFS-like illnesses, compared to non-fatigued controls.”

Chiropractic Management of Fatigue

A review of chiropractic literature revealed that this case study serves to be the first to examine the efficacy of subluxation-based chiropractic care for the management of generalized fatigue and malaise. Although there are no case studies that singularly correlate chiropractic care with improvement of fatigue and malaise symptoms, a few articles discuss fatigue as a related symptom affected through chiropractic care.

Rupert et. al. studied the effects of a non-force chiropractic technique on 24 patients with chronic pain-related conditions. After five weeks of care via the Bio-Energetic Synchronization Technique, significant improvement was noted in vigor and fatigue. Reduction in pain and depression after care was substantial as well.

Gerow et. al. studied the effects of chiropractic manipulation on a 36-yr-old female presenting with chronic fatigue syndrome. Initially, symptoms were consistent with immune deficiency and severe fatigue. The patient experienced relief of some symptoms as a result of chiropractic manipulative therapy.

Roberts et. al. reports on the results of chiropractic care of a 6-year-old girl with an acute injury to the head and a several-year history of “unexplained fatigue, vomiting, and coughing spells.” The patient received nine chiropractic treatments via the Activator Methods protocol. At the ten-week progress evaluation, the patient was “coherent, relaxed and alert” and “reported that she no longer had problems with fatigue, coughing, and vomiting.”

Interestingly, a 2015 study revealed the experiences and expectations of patients who received chiropractic care. Of the 544 respondents, 20% of them “reported unexpected or unpleasant reactions to their treatment, most commonly tiredness or fatigue (32%).” Although the complaints of tiredness or fatigue were largely of low concern to the patients surveyed, adverse effects remain a concern with any type of manual intervention. In this study, however, no account was taken for the patient’s presenting condition, the technique utilized, or the spinal areas adjusted.

Conclusion

This case study describes the effects of subluxation-based chiropractic care on the management of a 30-year-old male with

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A. Vertebral Subluxation Res. February 29, 2016
fatigue and malaise. The chiropractic care and management of this case focused on the detection and reduction of vertebral subluxation by means of the Gonstead Technique. Following eight months of care, the patient’s symptoms of fatigue and malaise were reduced, and objective health measures via the SF-36 noted marked improvement in multiple areas, including mental health, vitality, social role functioning, emotional role functioning and Mental Component Summary. According to the proposed neurobiological mechanisms herein, regular specific chiropractic adjustments to the spine in the areas that affect autonomic function and display indications of vertebral subluxation can improve general energy levels and reduce undue fatigue. Consideration of case history, relevant anatomy and physiology in conjunction with detailed chiropractic analysis should be made to determine the appropriate treatment plan. Limitations of this study include the presence of concurrent health complaints, the inherent difficulty in isolating and measuring the diagnosis of fatigue and malaise, and the lack of long-term follow-up with the patient. Increased research similar to this type of study will expand the knowledge and verify the efficacy of conservative subluxation-based chiropractic treatment in the management of generalized fatigue and malaise.

References

Table 1: SF-36 Abbreviations Key

SF-36 Abbreviations Key

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<th>Abbreviation</th>
<th>Description</th>
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<td>PF</td>
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<td>RP</td>
<td>Role-Physical</td>
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<td>Physical Component Summary</td>
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<td>Mental Component Summary</td>
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Table 2: SF-36 Data

SF-36 Data Table

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Figure 1: SF-36 Heath summary measures

SF-36 Health Summary

Summary Score (US ave = 50)

Duration of Care

0 mos. 2 mos. 4 mos. 6 mos.

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A. Vertebral Subluxation Res. February 29, 2016
Figure 2: SF-36 selected health concept measures
Figure 3: SF-36 health concept measures