



Indications for Chiropractic Treatment: An Overview

The Burden of Musculoskeletal Disorders

Musculoskeletal conditions have been identified as a significant economic burden and a major cause of morbidity throughout the world.¹ The significant burden to society of musculoskeletal disorders has resulted in the United Nations declaring 2000 to 2010 as The Bone and Joint Decade.^{1,2} In Canada, the total direct and indirect cost of musculoskeletal disorders exceeds those reported for cardiovascular disease with the highest costs reported for injuries, back and spine disorders, arthritis and rheumatism.³ Consequently, it is important that appropriate, effective and cost-effective treatment be provided for such a significant contributor to health care expenditures. What role can chiropractors play in treating these conditions? Chiropractic doctors are primary contact health care professionals trained to diagnose and treat neuromusculoskeletal conditions. They can participate effectively within the multidisciplinary health care setting to provide effective treatment for spinal and peripheral musculoskeletal complaints.

Incidence and Quality of Life

The annual incidence of musculoskeletal disorders was recently determined to be 13.6% in the spine, 4.2% in a joint and 4.6% at an extra-articular site.⁴ Individuals with musculoskeletal disorders experience pain, lose physical function and have a reduced quality of life. New onset of musculoskeletal conditions has marked deleterious effects on quality of life in the physical domain, and lesser effects on social and mental functioning.⁴

Back Pain

Back pain, especially low back pain, accounts for the majority of presentations seen in chiropractic practices.⁵ The population prevalence of experiencing at least one back pain episode within a persons' lifetime is 58% to 84%.^{1,3,5,6} Any structure in the back and neck that is

innervated, including the facet and sacroiliac joints, intervertebral discs, bone, ligaments, and muscles, can be a cause of pain.⁵ A disabling episode of low back pain occurs in approximately 11% of the adult population in any six month period.⁶ Disability can negatively affect all quality of life aspects as well as function within occupational settings. Although musculoskeletal occupational injuries of the extremities occur, occupational back pain is the most common and costly work-related injury.⁷ A multidisciplinary rehabilitation program with exercise is indicated for the treatment of low back pain that includes a workplace visit or a more comprehensive occupational health care intervention to help patients return to work faster, minimize sick leave and alleviate subjective disability.^{8,9,10}

Neck Pain

Neck pain closely follows back pain in lifetime prevalence at 65% and an annual incidence of almost 15% in Canada.^{11,12} Clinically important factors found to be associated with neck pain include a history of whiplash injury, headache, depression, cardiovascular disease, digestive disorders and cigarette smoking.¹³ A recent Cochrane review suggested that mobilization and/or manipulation when used with exercise are beneficial for persistent mechanical neck disorders with or without headache.¹⁴ Whiplash injuries, being the most common following motor vehicle collisions, are a significant health problem and a cause of chronic disability.¹⁵ The comprehensive systematic review of literature undertaken by the Quebec Task Force on Whiplash Associated Disorders, and more recent systematic reviews, recommend mobilization and/or manipulation for whiplash-associated disorders.¹⁵ Neck pain can result in absenteeism from work and disability although it is usually less disabling than low back pain.¹⁶

Chiropractors are trained to treat patients with neck and back pain with multimodal manual

therapy, education and referral for co-treatment for conditions that require multidisciplinary management.

Headache

Headache prevalence varies with the type of headache, its severity, frequency and disability. The one-year prevalence of tension-type headache, the most common type of headache, ranges from 40% to 80%.¹⁷ Those who experience tension-type headaches report work loss and decrease in quality of life including decreased effectiveness at work, home or school. Migraine headaches are less common with one-year prevalence of 10% to 12%, but they tend to be more severe and disabling.¹⁷

Osteoarthritis

As the population ages and includes more geriatric patients, the prevalence of osteoarthritis and other musculoskeletal disorders will also increase creating an even greater impact on society. Osteoarthritis is already the fourth most frequent predictor of health problems worldwide in women and eighth most common in men.¹⁸ Osteoarthritis can affect spinal and peripheral joints especially those that are involved in weight-bearing. In the geriatric population, the goal of treatment is to prevent or delay functional decline and maintain quality of life by restoring function to allow as much independent living as possible.⁵ Peripheral and spinal muscles and ligaments can also be injured by activities of daily living, occupational, sports and recreational activities leading to various cumulative or single-trauma strains and sprains.

Referral Indications

- Acute and chronic neck and back pain
- Chronic headaches
- Whiplash associated disorder (WAD)
- Musculoskeletal complaints of the geriatric population (i.e. osteoarthritis)
- Early conservative therapy for lumbar stenosis or disc herniation
- Strains and sprains
- Occupational, sport-related and recreational musculoskeletal injuries

Chiropractic Treatment Modalities

The treatment methods commonly used by chiropractors to treat musculoskeletal disorders are based on best practice and best evidence. They are typically multimodal¹⁴ and may include:

- Manual therapies – joint manipulation, mobilization, and soft tissue therapies;
- Electrotherapeutic modalities – ultrasound, inferential current or low level laser;
- Rehabilitation strategies – exercise and behavioural modifications.⁵

Multimodal treatment is recommended in work-related injuries accompanied by communication with the employer to encourage progress through a modified working environment.^{8,9}

Effectiveness and Safety

The effectiveness of chiropractic treatment has been studied extensively. In fact, manipulation is one of the most studied forms of conservative treatment for spinal pain.¹⁹ Systematic reviews demonstrate manipulation as an effective treatment for back and neck complaints.^{14,20} Manipulation, as well as multimodal and multidisciplinary care, are also recommended by the evidence-based guidelines facilitated by the College of Physicians and Surgeons (Ontario) for chronic non-malignant neck and back pain.²¹ In a recent pragmatic randomized trial (UK BEAM) for low back pain, manipulation was found to be an effective and cost-effective addition to best care in general practice, either alone or with exercise.^{22,23} In terms of neck pain, mobilization and/or manipulation are recommended by the Quebec Task Force and recent reviews as treatments for whiplash associated disorders.¹⁵ Spinal mobilization has also been demonstrated to be more cost-effective for neck pain in comparison to general practitioner care and physical therapy.¹⁶ For the treatment of chronic tension-type and migraine headaches, manipulation has been found to be effective with fewer side-effects than medications.¹⁷ Manipulation has also been found to be more effective than massage for cervicogenic headaches.¹⁷

In terms of general health care utilization, patients with chiropractic insurance coverage have lower annual total health care expenditures compared to those without.²⁴ Chiropractic coverage is also associated with lower utilization of imaging studies, hospitalizations and lower average back pain episode-related costs.²⁴ Chiropractic treatment is covered by all provincial Workers Compensation Boards. A recent evaluation report on the Ontario Workers Safety and Insurance Board, Program of Care for Acute Low Back Injuries demonstrated that patients undergoing chiropractic care have fewer lost work days and more clinically significant improvement in pain and disability compared to those in physiotherapy.²⁵ Patients consistently report significantly higher satisfaction with chiropractic care compared with other conventional treatments.^{7,24}

As with any other treatment, non-serious side effects may occur following manipulation but they are usually minor and short-lived. Such effects include localized discomfort, headache, or fatigue resolving within one to two days.¹⁹ Serious adverse events, such as vertebral artery dissection associated with cervical manipulation, are extremely rare. The rarity of serious complications only allows for an estimation of the potential risk. However, it is known that the risk of serious complications following cervical manipulation is significantly lower than the risk of other common medical treatments for comparable conditions (i.e. NSAIDs).²⁶ Chiropractors are required to discuss risks and obtain informed consent from patients prior to treatment and they may modify treatment when other predisposing risk factors exist. Government inquiries have found chiropractic treatment to be safe and effective

and recommend its integration into the health care system.²⁷

Summary

As a result of their education and training, chiropractors are well placed to treat spinal and peripheral musculoskeletal disorders. The goal of chiropractic treatment is to decrease pain and disability and to restore function with the earliest possible return to work and normal activity. Although patient care is individualized based on patient presentation, 50% of patients with chronic low back pain that undergo chiropractic care report improvement by the fourth visit or within two weeks, with 75% reporting improvement by 12 weeks.²⁸ This early recovery is also a strong predictor of a continued positive outcome up to one year later.²⁹ Chiropractors are educated to diagnose and identify indications and contraindications to chiropractic therapy in the treatment of musculoskeletal conditions. They are also educated to take and interpret radiographs, when indicated, as part of the clinical diagnostic process.⁵ If contraindications to treatment are present, chiropractors are trained to identify red flags and refer to the appropriate medical or health care practitioner in a timely manner, or co-manage the patient if appropriate. Medical doctors can be assured that chiropractic care is safe, effective and cost-effective and that chiropractors are well-trained to manage musculoskeletal disorders, including the delivery of multidisciplinary patient care.

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