



Rib and Thoracic Spine Dysfunction and Injury A Common Cause of Mid-Back Pain and Eventual Chest Pain

Does it Hurt your Back to Breathe?

A Summary of Costovertebral Joint Sprain and Costochondritis

Introduction

The symptoms of rib dysfunction and subsequent injury initially consists of mid-back stiffness and pain. This can sometimes be accompanied by pain and/or stiffness in the shoulder, neck and/or between the shoulder blades. Should the condition persist for long enough, the pain eventually causes sharp pain in the chest, especially during inhalation (breathing in).

Costovertebral/Costotransverse joint sprain and dysfunction is an injury to the joint(s) connecting the rib(s) to the spine. Over time, without proper treatment, this condition usually progresses to Costochondritis, which is injury and inflammation where the rib attaches to the sternum (chest). The chest pain associated with Costochondritis is severe.

Medical (Mis)Management

Chest and mid-back pain of a neuromusculoskeletal (NMSK) nature (the inter-related system of nerves, muscles, and joints) are a poorly managed cause of pseudo-angina (chest pain of a non-cardiac nature), medically speaking. This condition often results in visits to the Hospital Emergency Department, as the chest pain component is usually very severe, and is commonly mistaken by the patient as angina of a cardiac nature (heart attack). **It is estimated that approximately 50% of patient visits to emergency departments and outpatient cardiac clinics because of chest pain actually have a non-cardiac basis for their symptoms.**

These patients are often given a non-specific diagnosis or false diagnosis, and are offered no treatment plan or adequate follow-up. Nevertheless, as most people experience persistent or recurrent symptoms. The lack of a diagnosis may result in lost time at work, time away from sports, decrease in quality of life due to pain and impairment of normal activities. **This suffering is highly unnecessary, because this condition is successfully treated by conservative manual therapies (Chiropractic and Massage Therapy).**

Causes?

This condition affects a broad range of people. Athletes, such as runners and weight-lifters, are affected due to the extensive strain to the costovertebral muscles and ligaments, as the activity requires them to forcefully and repetitively inhale and exhale during exertion, or to move heavy loads. **Furthermore, this rib injury can occur from the intra-thoracic forces generated by coughing/sneezing following an infection with the common cold, bronchitis and even in asthmatics.** Most importantly, the cause can be poor posture resulting from prolonged sitting at a desk or computer. For this reason it is common in students and office workers. Poor posture causes strain and imbalance to supporting structures such as ligaments, tendons, and muscles, which then causes damage and inflammation to joints. This is similar to tires on a vehicle wearing faster and unequally due to poor wheel alignment.

The solution?

Spinal Manipulative Therapy (SMT) (Chiropractic Adjustments) are one of the most widely used, scientifically studied and most successful treatment methods for injuries and dysfunction of tissues related to the vertebral column. Combined with other therapies such as Active Release Techniques (ART) and Shockwave therapy, which addresses muscular dysfunction and injury, these manual treatments are the gold standard for the aforementioned rib and spinal injuries. These treatments correct the underlying causal factors of the injury, which essentially are altered Biomechanics of the chest, ribs, spine and neck/shoulders. Without correction of the altered Biomechanics through manual therapy, the injury becomes chronic and self-perpetuating. Low-Level Laser Therapy (LLLT) is also a highly effective adjunctive therapy for reducing pain and inflammation, in addition to speeding the healing process due to biostimulation. Most importantly, LLLT is required during the costochondritis stage of the injury, because it stimulates the cells (chondrocytes) of the costal-cartilage (chest cartilage), which are relatively slow to heal on their own due to a poor blood supply. Once the costal-cartilage is affected, as noted, it is very painful, and unfortunately takes a very long time to heal, and sometimes will heal improperly.

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