

OPTIMAL HEALTH UNIVERSITY™

Presented by Dr. Wayne Terai

TOS: Common, Lesser-Known Cause of Shoulder, Neck and Arm Pain

Thoracic outlet syndrome (TOS) is a group of disorders that occur when the blood vessels and nerves in the space between the collarbone and the first rib become compressed. Over the long term, untreated TOS may cause permanent nerve damage.

TOS may ensue from a long-past injury. Poor posture and repetitive movements are two other common culprits. Fortunately, chiropractic care from Dr. Terai may prevent this common, but relatively unknown, condition.

The Thoracic Outlet

The thoracic outlet is the passageway between the collarbone and the first rib. Blood vessels, muscles and nerves that travel down the neck to the arms crowd this narrow cavity. When the thoracic outlet is squeezed, TOS symptoms arise.

Painful Problem

Pain from TOS ranges from mild and intermittent to severe and unrelenting. TOS symptoms vary, depending whether the nerves, blood vessels or both are involved. Compression of the nerves to the arm is the most frequent occurrence in TOS. In this case, pain in the shoulder, neck and arms may be accompanied with numbness or tingling in the fingers. In addition, fine-motor tasks may become difficult, and grip strength may decrease.

Pressure on the blood vessels and arteries reduces blood flow to the arms and hands, making them feel cool and overworked. Pain in the neck and shoulder region may increase at night. Additional symptoms include bluish discoloration of the hand, swelling or puffiness in the arm or hand, and a throbbing lump near the collarbone.

Common Causes

What causes the thoracic outlet to constrict? Repetitive desk work is a major cause. Other risk factors include occupations and activities that involve heavy lifting, working in a static position for prolonged periods, or assembly-line work.

Poor posture is another leading cause. A slumped forward carriage in which the shoulders droop and the head falls forward crush the thoracic outlet area. A trauma, such as a sports injury or motor vehicle accident, may also instigate structural changes that cram the nerves in the thoracic outlet. In this case, symptoms can be delayed and may take months or even years to onset.

Surgery Often Not Effective

Dr. Terai urges TOS sufferers to try natural approaches, such as chiropractic care, before agreeing to surgery. Quite often the condition can be remedied through a natural approach. On the other hand, research shows that going under the knife has mixed results at best. In one analysis, clinicians evaluated 45 patients eight years after TOS surgery and found that less than half — only 43 percent — were successful. The remainder of the patients still endured pain, most frequently at night. The study authors summarize: "It is recommended that the feasibility of conservative therapeutic approaches should be evaluated before undertaking surgery for TOS symptoms." (*Am J Surg* 1995;169:358-60.)

Chiropractic Care

A plethora of other conditions may produce symptoms mimicking TOS. That's why Dr. Terai takes time with each patient to provide a comprehensive evaluation. This approach allows the doctor to pinpoint the underlying dysfunction — and map out a custom-tailored solution that's unique for each patient.



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Early Detection

When TOS is diagnosed early, recovery is typically speedier than it is when the problem lingers undetected. That's why it is essential to maintain regular chiropractic wellness check-ups. At each appointment, the doctor will assess your spine for changes and can detect spine-related conditions, such as TOS.



Chiropractic Adjustments

Optimal spinal alignment is essential to avoid TOS. Doctors of chiropractic help patients maintain correct spinal posture by searching the spine for **vertebral subluxation**. This common malady occurs when vertebrae (spinal bones) are slightly out of alignment. Using precise maneuvers, called **chiropractic adjustments**, the doctor corrects these dysfunctional areas and restores mobility.

Research indicates that chiropractic care is highly successful in reducing TOS. In one case analysis, a 56-year-old patient developed TOS after two car accidents. She suffered from headaches and neck, arm and shoulder pain, especially on the left side. MRI evaluations showed subluxations throughout her neck.

Her doctor of chiropractic performed

chiropractic adjustments, in addition to other protocol, which focused on correcting posture. The result? The study authors conclude: "The abnormal posture and muscular dysfunctions were addressed with muscle stretching, relaxation and therapeutic exercises. The patient responded well to treatment and was released with good long-term outcome." (*J Amer Chiropr Assoc* 2005;42:9-13.)

First Rib

Researchers suspect that, along with spinal bones, the first rib may move out of alignment in TOS. When the first rib is slightly misaligned, the thoracic outlet narrows, putting pressure on the nerves. In one analysis of 22 patients with TOS, all participants had limited mobility of their first rib on the painful side. When movement was restored to the first rib, over half of the patients enjoyed complete relief from symptoms (*Arch Phys Med Rehabil* 1988;69:692-5).

Doctors of chiropractic restore motion to the first rib area with chiropractic adjustments. Additionally, chiropractic care focuses on increasing range of motion in the cervical (neck) and thoracic (upper back) regions of the spine. Patients with TOS often suffer from tight joints in these areas as well.

Patient Education

Understanding the cause of TOS symptoms is paramount to prevention and recovery. Our office works with patients to analyze individual lifestyle factors that may contribute to the condition. For example, the doctor may encourage patients to take frequent work breaks, practice specific relaxation techniques and avoid repetitive movements and lifting heavy objects.

Additionally, the doctor may suggest ergonomic changes for individual patients, such as reconfiguring a workstation setup or avoiding carrying a heavy bag over the shoulder, which increases pressure on the thoracic outlet. Augmentations to specific sports activities — such as a golf swing or tennis serve — may also be in order.

Exercises

Chiropractic care for TOS may also include suggested strengthening exercises to keep shoulder muscles strong enough to support the collarbone. This training helps open the thoracic outlet and improves range of motion and posture. The doctor may also recommend postural exercises to lessen pressure on the nerves and blood vessels. And neck exercises may be recommended to increase flexibility and strength. Together, these exercises — along with specific stretches — gradually take pressure off blood vessels and nerves in the thoracic outlet.

In one two-year analysis, researchers followed 119 patients (28 men and 91 women) who received exercise instruction for TOS symptoms. At a follow-up exam, eight out of 10 patients had achieved normal range of motion in the cervical spine and upper thoracic region. Seventy-three percent of the patients had returned to work. The authors conclude that "conservative therapy with the aim of restoring the function of the upper thoracic aperture is to be recommended, and long-term follow-up is advisable." (*Arch Phys Med Rehabil* 1997;78:373-8.)

Relaxation

Stress reduction is a key component of the *chiropractic lifestyle* — a mode of living encompassing healthy life choices rooted in chiropractic care. This approach encourages patients to slash daily stress as much as possible and seek out anxiety-reducing techniques, such as deep breathing, yoga and meditation. Limiting worry keeps the shoulders from tensing and helps maintain optimal posture.

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