

T4 Syndrome Symptoms



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T4 syndrome--a syndrome that affects the nerve roots at the fourth thoracic vertebral segment--is likely linked to a thoracic hyper-kyphoses, or excessive forward angulation of the upper and middle thoracic spine. T4 syndrome is a relatively common condition, and is associated with injury to the facet joints at the T4 segment.

Upper Back Stiffness and Facet Joint Tenderness

T4 syndrome is characterized by upper back stiffness and tenderness over the T4 vertebra's facet joints. Although little evidence exists to explain the definitive cause or causes of T4 syndrome and its associated upper back stiffness and tenderness, it's believed that faulty postural alignment, joint hypomobility and thoracic vertebral segmental rotation dysfunction may be contributory factors. It's also possible the T4 syndrome symptoms such as upper back stiffness and facet joint tenderness could arise due to excessive strain on the thoracic spine, especially with bending or twisting motions or heavy lifting. Sudden, unguarded spinal movements can cause significant back pain or discomfort. A health care practitioner assessing a patient with T4 syndrome will be able to elicit discomfort by compressing the tissues overlying the T4 vertebral segment's facet joints. Palpation of the upper back may also reveal muscle spasms.

Arm & Hand Pain or Numbness

Arm and hand pain and numbness is one of the most common symptoms associated with T4 syndrome, and its presence helps a health care practitioner properly diagnose and treat the condition. According to Medic8.com, patients with T4 syndrome will experience diffuse pain--often in a glove-like distribution--throughout one or both arms, although pain in the

upper arm is most common. And although both arms and hands may be affected, T4 syndrome-related arm and hand pain typically manifests on just one side of the body. The arm pain often is accompanied by numbness or tingling. TodayInPT.com notes that some researchers believe the pathway provided by the autonomic nervous system helps explain why thoracic spine dysfunction can cause headaches, neck and extremity pain, and paresthesias, or tingling sensations.

Headaches

Headaches are another common symptom associated with T4 syndrome. According to a study published in the "Journal of Manipulative and Physiological Therapeutics," upper extremity paresthesias in a glove-like distribution, along with a stiff upper thoracic spine without neurological indication of disease and headaches, may be indicative of T4 syndrome. The study's authors suggest that joint manipulation of the involved dysfunctional upper thoracic segments may alleviate these symptoms. The Central City Physio website states that T4 syndrome-related headaches manifest in the mid to upper back, and typically are felt on both sides of the head. Patients often describe a T4 syndrome-related headaches as a fuzzy or fluffy feeling, similar to cotton wool in the ears, or as a band around their head, which is similar to a tension headache.

Treatment for T4 syndrome

Most patients with this condition heal quickly and have a full recovery with appropriate physiotherapy. One of the key components is that the patient rests sufficiently from ANY activity that increases their pain until they are symptom free. This allows the body to begin the healing process in the absence of further tissue damage. Once the patient can perform these activities pain free, a gradual return to these activities is indicated provided there is no increase in symptoms.

Regular icing and anti-inflammatory medication may be beneficial in the first 72 hours following injury or when inflammatory signs are present (i.e. morning pain or pain with rest). This can significantly hasten the healing process by reducing the pain and swelling associated with inflammation.

Generally, sitting should be avoided. However, if inevitable, optimal sitting posture is vital to minimize stress on the spine. Optimal sitting posture can be obtained by sitting tall on an appropriate chair, with your bottom in the back of the chair and a lumbar support (or a pillow or rolled up towel) in the small of your back (figure 2). If you must sit, try to keep it to short periods of less than 10 – 15 minutes at a time and no more than 1-2 hours total for the day. Sitting slouched should be avoided as it places your upper back into its maximal bend (like standing and touching your toes), this will usually aggravate T4 syndrome.

Early movement and strength exercises are important to perform in order to prevent stiffness and weakness from developing and to ensure the upper back is functioning correctly. The treating physiotherapist can advise which exercises are most appropriate and when they should be commenced.

Prognosis of T4 syndrome

The recovery time for T4 syndrome may vary from patient to patient depending on compliance with physiotherapy. With ideal treatment, patients may be pain free in as little as several days, although typically this may take 2 – 3 weeks. It is important to note, however, that injured tissue takes approximately six weeks to restore the majority of its strength in ideal healing conditions. Care must therefore be taken when returning to activity during this period.

Physiotherapy for T4 syndrome

Physiotherapy for T4 syndrome can hasten the healing process, ensure an optimal outcome, and reduce the likelihood of future recurrence. Treatment may involve:

- soft tissue massage
- mobilization
- manipulation
- electrotherapy (e.g. ultrasound)
- postural taping or bracing
- dry needling
- education
- activity modification advice
- ergonomic advice
- the use of a lumbar support for sitting
- Clinical Pilates
- hydrotherapy
- exercises to improve flexibility, strength, posture and core stability
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Contributing factors to the development of T4 syndrome

There are several factors that may contribute to the development of T4 syndrome. These factors need to be assessed and corrected with direction from a physiotherapist and may include:

- poor posture
- thoracic spine stiffness
- a sedentary lifestyle
- poor core stability
- muscle weakness or tightness
- inappropriate lifting technique
- a lifestyle involving large amounts of sitting, bending, lifting or activities involving the hands in front of the body

Exercises for T4 syndrome

The following exercises are commonly prescribed to patients with T4 syndrome. You should discuss the suitability of these exercises with your physiotherapist prior to beginning them. Generally, they should be performed 5 times daily and only provided they do not cause or increase symptoms.

Shoulder Blade Squeezes

Begin sitting or standing tall with your back straight. Squeeze your shoulder blades together as hard and as far as possible pain-free. Hold for 5 seconds and repeat 10 times (Figure 3).



Figure 3 – Shoulder Blade Squeezes

T4 syndrome is often misdiagnosed by doctors as a problem in the cervical spine (neck) In my experience as a Chartered Physiotherapist in practice for over 30 years, T4 syndrome is on the increase, due in part to our sedentary life style, and jobs which involve sitting at computers etc for long periods. With the correct treatment, plus lifestyle and postural changes, T4 syndrome can be treated successfully in most cases.