



Holladay Physical Medicine

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This information is about this condition in general. Every individual has a unique presentation. Once you understand this information, consult the doctor on any specific questions about your condition.

Thoracic Outlet Syndrome

Definition

Thoracic Outlet Syndrome (TOS) is pain, numbness, tingling, and/or weakness in the arm and hand due to pressure against the nerves or blood vessels that supply the arm. It is due to tight muscles, ligaments, bands, or bony abnormalities in the thoracic outlet area of the body, which lies just behind the collar bone. Pressure on the nerves is the problem more than 95% of the time, but occasionally the artery or vein is involved.



Common Symptoms

The most frequent complaints are numbness and tingling in the fingers; pain in the neck, shoulder, and arm; headaches in the back of the head; weakness of the arm and dropping things from the hand; worsening of the symptoms when elevating the arm to do such things as comb or blow dry one's hair or drive a car, and coldness and color changes in the hand. The symptoms are often worse at night or when using the arm for work or other activities.

Cause

TOS is most often produced by hyperextension neck injuries. Auto accidents that cause whiplash injuries, and repetitive stress in the workplace, are the two most common causes. Some of the occupations that we see causing TOS include, working on assembly lines, keyboards, or 10-key pads, as well as filing or stocking shelves overhead. In some people, symptoms develop spontaneously, without an obvious cause. An extra rib in the neck occurs in less than 1% of the population. People born with this rib, called a cervical rib, are 10 times more likely to develop symptoms of TOS than other people. However, even in people with cervical ribs, it usually requires some type of neck injury to bring on the symptoms.

Diagnosis

Physical examination is most helpful. Common findings are tenderness over the scalene muscles, located about one inch to the side of the wind pipe; pressure on this spot causes pain or tingling down the arm; rotating or tilting the head to one side causes pain in the opposite shoulder or arm; and elevating the arms in the "stick-em-up" position reproduces the symptoms of pain, numbness, and tingling in the arm and hand. There is often reduced sensation to very light touch in the involved hand (this can only be detected in people with involvement on one side). Diagnostic tests, such as EMG's or NCV's, may show non-specific abnormalities, but in most people with TOS, these tests are normal. Neck or chest x-rays may show a cervical rib. Loss of the pulse at the wrist when elevating the arm or when turning the neck to the side (Adson's sign), has been thought by some to be an important diagnostic sign. However, we find it unreliable because many normal people also lose their pulse in the same positions, and the majority of people with TOS do not lose their pulse in these positions. Shrinkage of hand muscles (atrophy) occurs in about 1% of people with TOS, and these people will have nerve tests that show a typical pattern of ulnar nerve damage.



Disease Process

Microscopic examination of scalene muscles from the necks of people with TOS demonstrates scar tissue throughout the muscle. Presumably, this was caused by a neck injury stretching these muscle fibers. The tight muscles then press against the nerves to the arm (brachial plexus) producing the hand and arm symptoms. Neck pain and headaches in the back of the head are caused by the tightness in these muscles.

Treatment

Treatment begins with physical therapy and neck stretching exercises cervical and thoracic manipulation. Abdominal breathing, posture correction, and nerve glides, carried out on a daily basis, are a part of the therapy program. Gentle, slow movements and exercises are stressed. Methods like Feldenkrais have helped many people with TOS. Modalities to avoid are those that emphasize strengthening exercises, heavy weights, and painful stretching. It is important to be examined and tested for other causes of these symptoms because other conditions can coexist with TOS, and these should be identified and treated separately. Some of these associated conditions include carpal tunnel syndrome, ulnar nerve entrapment at the elbow, shoulder tendinitis and impingement syndrome, fibromyalgia of the shoulder and neck muscles, and cervical disc disease. Surgery can be performed for TOS, but it should be regarded as a last resort. Non-surgical forms of treatment should always be tried first.

Treatment frequency is usually daily for 3-7 days and then three times a week for 3-6 weeks. After that, realignment of the vertebra must be performed to prevent eventual return of this condition. It can be accomplished in 30-60 days of reduced frequency management. Often once a week treatment is sufficient at that point to restore alignment. Thereafter, this condition can be reasonably avoided with monthly correction of spinal alignment.

After the first few days of treatment, you will be given a sheet of stretching exercises to do at home. This is to help reduce the treatment time and speed healing. It is very important for you to do these daily as prescribed. If you have any questions about them or difficulty or pain on performing them, please tell the doctor right away.

Several days following the initiation of treatment, more aggressive exercise routines will be proscribed for you. You will be taken to the rehabilitation center and instructed on how to use the computer monitored exercise routines specifically designed for this condition. The routines are monitored for completion and graduated in difficulty after certain numbers of routines have been completed. You will be expected to perform these routines after treatment during the initial part of the restorative phase and throughout the rehabilitative phase of your treatment. Our goal is to help you get well and stay well. We know from experience that most mechanical conditions return gradually over a period of months and become more advanced each time. The only way this can be prevented is with exercise. We expect you to be successful.

We offer treatment of these conditions at various levels for all patients. We expect that you will follow this treatment plan through to its logical conclusion of restoration of complete function and rehabilitation. Our management system is designed to help you remember all of your appointments and to be fully compliant with all of our recommendations. At any time, should you decide to discontinue the process, please just let us know so that we don't become a bother.

Results of Treatment

Most people with TOS will improve with manipulation, stretching and physical therapy. In our experience with over 5000 people with TOS, less than 30% had surgery. The improvement rate with surgery varies with the cause of the TOS. Auto injuries have a success rate of 80-85% while repetitive stress at work has a success rate of 60-70%.

Expectations

We understand that you have come here for help. We have spent many years learning the best ways to solve the problems of mechanical back and neck pain. We expect you to comply with our recommendations and follow our treatment schedule completely regardless of the treatment plan you have. We expect you to set all of the recommended appointments at times convenient for you and we expect you to keep all of them. We expect you to respond favorably and know that your 100% compliance is the determining factor. We also expect you to attend our next class on Absolute Spinal Health. The staff can give you a schedule of the next class.

LIFE STYLE CHANGES:

Long periods of stress should be avoided. Do not sleep or lie on your stomach and avoid activities that hyper extend the neck. Water intake should be increased substantially

USE OF PRESCRIPTION DRUGS

We do not prescribe drugs nor recommend their use if harmful side-effects are associated with your complaints. We also do not, in any case, recommend changes in the use of prescription drugs that a licensed physician has given you. If you believe alterations in those prescriptions are in the best interest of your health, always consult with the prescribing physician before making any changes.

NUTRITION AND SUPPLEMENTATION:

The ideal situation for nutrition in any injury or disease is first to eat whole foods, and to avoid processed foods, fast foods preservatives, refined carbohydrates and sugar. We have much information on our web page under Absolute Health Clinic. The physical medicine modalities we will provide you will help reduce the symptoms in the time we have projected. If you want to heal, this step is something you will need to take.

Nowadays, even if you do all of those things, you need to realize that our food supply has been gradually depleted. The pure ingredients needed to maintain body function, metabolism and immunity have been drastically reduced. We recommend only whole food supplements. Studies are clear that synthetic vitamins and mineral supplements are not only not helpful to the body in most cases, but can be toxic. Don't expect them to take the place of what we recommend here. They will not help you sufficiently to heal properly. The following list has been prioritized to help you gradually begin to supplement your improved diet and provide your body with the ingredients it needs to restore or improve your immune response and then provide the raw materials in usable form to repair the damaged or diseased tissue. The degree to which you can implement these items will largely determine how fast you recover and more importantly whether or not you have a recurrence or relapse of the symptoms again soon.

These products are all produced by Standard Process. You may obtain them on line from Amazon or other distributors if you like or we can order them for you and save you an average of \$5 per bottle plus you can avoid shipping charges.

GENERAL DAILY SUPPLEMENTS

- Catalyn
- Tuna Omega-3 oil
- Calcium Lactate
- Trace Minerals B12
- Cataplex D
- Prolamine Iodine

SPECIFIC FOR THIS CONDITION

- Biost
- Glucosamine Sulphate
- Ligaplex II
- Calcifood

Specific dosages will be provided by the doctor.

We have many other specific items for a variety of health deficient conditions. Consult our web page or ask the doctor.

HOME REMEDIES AND MEDICINES

After the first 1-3 days when you should be using 5-8 minutes of cold packs, utilize moist heat packs on a daily basis during the first phase of treatment. 15 minutes is the maximum therapeutic dose for heat in this condition. The application may be repeated with at least 15 minutes of non-heat rest in between. This will help relax tight muscle fibers and bring blood to the region. Hot tubs and baths with Epsom salts provide temporary relief.

The use of over-the-counter medications for pain and inflammation may be seen as necessary at first depending on your pain level and tolerance. Understand that we depend on your natural immune response to function well in order to heal this disorder. Some pain relievers and most anti-inflammatory medications shut off the inflammatory response which is what triggers your body's immune response mechanisms. If you need pain medicines of any kind to continue to function or to be able to do the exercise routines we have recommended, use good judgement in when you use them. We strongly suggest you consider ice packs for 5-10 minutes for pain relief and mechanical positioning of the injured areas to relieve pressure and pain. The more you are able to do these procedures and avoid medications, the faster your immune response will be effective and the sooner you will be out of pain and begin healing. The sooner you can stop taking pain medication, the better it will be for your healing.

EXERCISES:

Exercises should be specific, performed at the right time and in a particular order. They should be simple and aimed at pain relief and stabilization at first. Seek advice from your chiropractic physician on when to do these exercises and how often. When performed correctly, rehabilitation exercises can be the key to avoiding multiple episodes of pain and maintaining the function of the muscles and joints.

Our goal here is to have you begin exercises as soon as the joint mobility has been restored sufficiently. Consistent and proper exercise rehabilitation will shorten your treatment time and help reduce recurrence of the same disorder.

We offer a video training featuring exercises specifically designed and proven effective if properly performed for the rehabilitation of this condition. These video files are available on our web page at www.holladayphysicalmedicine.com ---follow that link, then the exercise pulldown menu at the top center of the home page, choose therapeutic and then scroll down to:

shoulder,

then also and review

neck and Thoracic spine

and perform them daily as soon as you can work it into your schedule. Along with the physical medicine we have recommended, it is the regular performance of these exercises that will get you well and keep you well.

MAINTENANCE:

Regular spinal adjustments and mild forms of physical therapy are important to reduce the symptoms on a regular basis. Patients who receive monthly spinal manipulation and therapy report fewer complications and improved life style. It is important that you follow your chiropractic physician's advice about the frequency of treatment for your particular condition.

OTHER INFORMATION:

We offer a wide variety of health information at our web site.

All patients are welcome to use our information to improve your life and maintain your spinal health.

This information is provided to you as a health service by Dr. Bruce Gundersen, DC, DIANM. He is board certified by the International Academy of Neuromusculoskeletal Medicine and currently serves as chairman of the examination board for the Academy. He is also the President of the Utah College of Chiropractic Orthopedists and clinical director and chief clinician at Holladay Physical Medicine. He has practiced physical and regenerative medicine for over 40 years.