The term “thoracic outlet” describes an area at the base of your neck, just above your collarbone. Some important nerves and vessels pass through this outlet on their way into your arm. Compression of these tissues causes a condition called “thoracic outlet syndrome” which results in pain, numbness or tingling in your arm.

Several different factors can cause Thoracic Outlet Syndrome, commonly referred to as TOS. Sometimes TOS is caused from tightness in the muscles of your neck and chest, other times the space between your first rib and collarbone is too small. People who have an extra rib (cervical rib) and people who have recently suffered a neck injury may have a greater chance of having this problem.

The condition is aggravated by poor posture and by occupations that promote “slouching,” i.e., computer users, assembly line workers, supermarket checkers and students. Swimmers, volleyball players, tennis players, baseball pitchers and occupations requiring prolonged overhead activity, i.e., electricians and painters are also prime candidates for TOS.

Symptoms of TOS include arm pain, numbness, tingling and possible weakness. Neck, arm and hand pain may begin slowly and are often aggravated by elevation of the arms or excessive head movement. Loss of grip strength is possible.

Conservative treatment, like the kind we provide, has been shown to be effective at treating TOS. Through our careful exam we have identified your specific sites of compression and will use some of the following treatment to help:

You should avoid carrying heavy loads, especially on your shoulder i.e., carpet rolls. Briefcases, laptop cases or heavy shoulder bags should be lightened. Bra straps may need additional padding or consideration of replacement with a sports bra.

Here is a brief description of the treatments we may use to help manage your problem.

**Joint Manipulation**
Your chiropractor has found joints in your body that are not moving freely. This can cause tightness and discomfort and can accelerate unwanted degeneration i.e. arthritis. Your chiropractor will apply a gentle force with their hands, or with hand held instruments, in order to restore motion to any “restricted” joints. Sometimes a specialized table will be used to assist with these safe and effective “adjustments”. Joint manipulation improves flexibility, relieves pain and helps maintain healthy joints.

**Therapy Modalities**
We may apply electrotherapy modalities that produce light electrical pulses transmitted through electrodes placed over your specific sites of concern. These comfortable modalities work to decrease your pain, limit inflammation and ease muscle spasm. Hot or cold packs are often used in conjunction, to enhance the effect of these modalities. Another available option is therapeutic ultrasound. Ultrasound pushes sound vibrations into tissues. When these vibrations reach your deep tissues, heat develops and unwanted waste products are dispersed.
**Myofascial Release**
Overworked muscles often become tight and develop knots or “trigger points”. Chronic tightness produces inflammation and swelling that ultimately leads to the formation of “adhesions” between tissues. Your chiropractor will apply pressure with their hands, or with specialized tools, in order to release muscle tightness and soft-tissue adhesions. This will help to improve your circulation, relieve pain and restore flexibility.

**Therapeutic Exercise**
Muscle tightness or weakness causes discomfort and alters normal joint function, leading to additional problems. Your chiropractor will target tight or weak muscles with specific therapeutic stretching and strengthening to help increase tissue flexibility, build strength, and ease pain. Healthy, strong, and flexible muscles may help prevent re-injury.

Your treatment will be most effective when scheduled at a rate of 3 times per week for 2 weeks. After this initial course of treatment we will reassess to make sure that you have met your initial treatment goal of at least 40% overall improvement. We will determine the need for any additional care after your reassessment.

**Workstation Ergonomics**
Ergonomics is the science of adjusting your workstation to minimize strain in the following ways:
- Maintain proper body position and alignment while sitting at your desk - Hips, knees and elbows at 90 degrees, shoulders relaxed, feet flat on floor or footrest.
- Wrists should not be bent while at the keyboard. Forearms and wrists should not be leaning on a hard edge.
- Use audio equipment that keeps you from bending your neck (i.e., Bluetooth, speakerphones, headsets).
- Monitors should be visible without leaning or straining and the top line of type should be 15 degrees below eye level.
- Use a lumbar roll for lower back support.
- Avoid sitting on anything that would create an imbalance or uneven pressure (like your wallet).
- Take a 10-second break every 20 minutes: Micro activities include: standing, walking, or moving your head in a “plus sign” fashion.
- Periodically, perform the “Brugger relief position” - Position your body at the chair’s edge, feet pointed outward. Weight should be on your legs and your abdomen should be relaxed. Tilt your pelvis forward, lift your sternum, arch your back, drop your arms, and roll out your palms while squeezing your shoulders together. Take a few deep cleansing breaths.

**Pillow Selection**
To avoid neck and upper back pain from improper neck support:
- Select a pillow that will hold your head in a neutral position while sleeping on your side or back.
- Avoid excessively thick or multiple pillows.
- Choose a fiberfill or feather/down pillow as these are usually better than foam.
- Consider a commercially available pillow that promotes good neck posture.

The following exercises have been specifically selected to assist with your recovery and help minimize future
Cervical Retractions
Sit or stand looking forward with good posture. Tuck your chin to create a double chin. Hold this position for 3-5 seconds. Return to the starting position. Focus your vision on a spot on the wall to avoid neck flexion or extension. To progress, place a finger on your chin, and apply backwards pressure at end range. Imagine that your head is on drawer slides. Keep your mouth closed. Perform 1 set of 10 repetitions every hour. Alternately, this exercise may be performed standing with your back against a wall. Your buttocks and shoulder blades should be in contact with the wall. Tuck your chin to make a “double chin” until the base of your skull contacts the wall, relax and repeat as directed.

Ulnar Nerve Floss
Hold your arm in front of you with your elbow, wrist, and fingers straight as though you are getting ready to shake hands. Touch the tips of your thumb and first finger together to make a ring. Slowly flex your elbow until your hand reaches your face. The ring position should be maintained and your forefinger should be just beneath your eye socket. Slowly raise your elbow to flip the ring up into a “monacle” around your eye. Lower your arm back to the starting position and repeat 10 repetitions three times per day or as directed.
**Scalene Stretch**
While sitting or standing, reach down with your right arm, grasping your thigh or the bottom of a chair for stability. While looking straight ahead, place your left hand on top of your head, and gently pull your head sideways toward the left. Against the resistance of your hand, attempt to laterally extend your right ear toward your right shoulder for seven seconds. Relax and stretch further toward the left. “Lock in” to each new position, and do not allow any slack. Repeat three contract/relax cycles on each side twice per day or as directed.

**Corner Pectoral Stretch**
Begin standing, facing a corner with your palms on the walls above head level. Step toward the corner and “lean in” to stretch your chest muscles. Against the resistance of the wall, attempt to push your hands into the wall and toward each other for 7 seconds. Relax and “lean in” to increase the stretch. Lock into this new position and repeat 3 contract/relax cycles, twice per day or as directed.

**Resisted Shoulder Retraction**
Secure a piece of elastic resistance tubing to a doorframe. Sit or stand with your elbows tucked into your sides bent at 90 degrees, forearms pointing forward. Grasp the resistance band and pull it towards you by focusing on pinching your shoulder blades together. Return to the start position and repeat three sets of 10 repetitions daily or as directed. *This exercise may also be performed using a cable row machine or by looping a piece of elastic resistance band over your feet while sitting on the floor with your legs directly in front of you.*

The following Phase II exercises will be started at a later date as you progress. Do not begin Phase II exercises until you are directed to do so by our office. You will continue your Phase I exercises until otherwise directed.