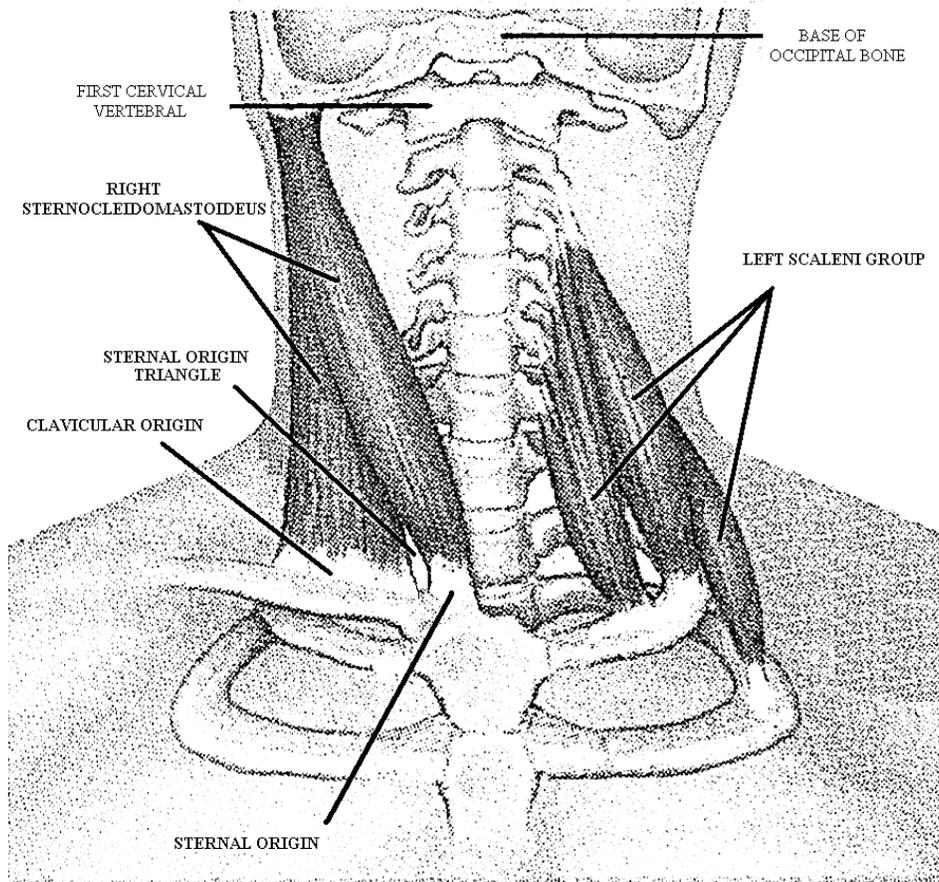


ANTERIOR OF THE SCALENI SYNDROME

The syndrome described here should be named (if named as other special syndromes have been named) the *sternocleidomastoideus sternal-clavicular origins syndrome*, which is certainly descriptive of where the telltale inflamed zone is found. However, such a name seems to be excessively long for common use. Instead, *Anterior of the Scaleni Syndrome* will be arbitrarily substituted for the more correct in the writing here.

The actual anatomical source of the *Anterior of the Scaleni Syndrome* is unknown. However, it seems apparent from the pain patterns associated with it, and the position of its characteristic inflamed zone (illustrated below), that the syndrome derives from pressure exerted upon at least one of the medial supraclavicular nerves within the triangle formed by the sternal and clavicular origins of the sternocleidomastoideus. The pain pattern usually associated with this syndrome is generally described as being within the cutaneous sensory distribution of C3 and C4 (illustrated below), but the patient often reports being unaware of any pain within the



The skeletal muscle arrangement of the anterior neck

sternal origin triangle, until the tissues within it are palpated. This syndrome is often found in association with other shoulder pain syndromes including the *bicipital tendonitis*, *posterior deltoid origin*, and *Teres Major Syndromes*. Indeed, it is suspected that the *Anterior of the Scaleni Syndrome* is a precursor or precipitator of these other shoulder pain syndromes (and perhaps more). It may possibly affect capillary circulatory patterns or otherwise produce neuromuscular imbalances in structures associated with those other syndromes, thereby setting them up for injury. Many of our patients who have historically suffered from recurrent shoulder pain problems seem to lose some of the predisposition for them when the *Anterior of the Scaleni Syndrome* has been successfully treated.

It is not unusual for this syndrome to occur on both sides of the neck simultaneously. This syndrome seems to derive from maintaining the neck in an extended (sticking the chin out) while working with the hands (i.e., an occupation requiring prolonged muscular tension, like bowing a cello or typing on a computer for an extended period). If the head is habitually turned to one side, the inflammation will appear on the contralateral side. If the condition had occurred on both sides, the patient habitually “sticks his chin out” in the neutral position.

Treatment

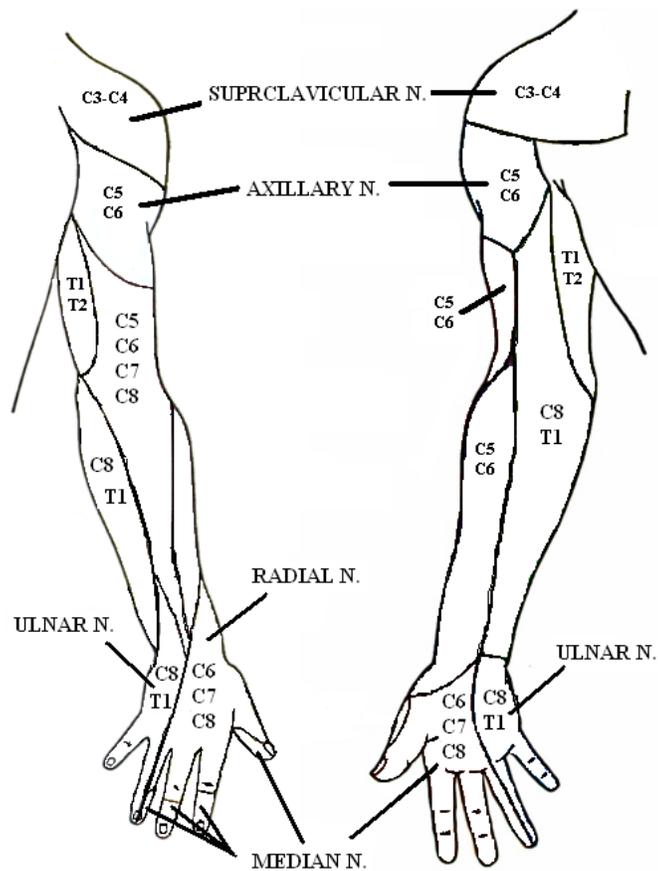
The treatment of the *Anterior of the Scaleni Syndrome* amounts to breaking any adhesions that are present and eliminating any inflammation

Application:

- Place a negative electrode over the inflamed zone, and a positive electrode over the lower trapezius muscle. Preset an electrical stimulation unit to deliver a visible contraction, at 7 Hz. Stimulate for a 10 minutes.



The high skin resistance pattern associated with the Anterior of the Scaleni Syndrome



The cutaneous sensory distribution of C3 and C4

- Next, preset the electrical stimulation unit to deliver a medium frequency current, with a duty cycle of 10-seconds on and 10-seconds off, sufficient to produce a visible near tetanic contraction of the involved muscles and stimulate for a 10 minutes.
- Manipulate the tissues in and around the clavicular and sternal origins of the sternocleidomastoideus to break up any adhesions that are present. Be sure to manipulate along the superior and posterior aspects of the clavicle (i.e., behind the clavicle).
- Preset the ultrasound unit set to deliver a 3 (or 3.3) MHz pulsed waveform at 1.5 W/cm². Ultrasound over the inflamed zone, utilizing an effective anti-inflammatory as the coupling agent, for six minutes.

The following treatment forms have also been effective.

Variation:

- Preset the ultrasound unit to deliver a 3 (or 3.3) MHz pulsed waveform, at 1.8 W/cm². Ultrasound the inflamed zone, utilizing an effective non-steroidal anti-inflammatory as a coupling agent, for six minutes. This procedure is designed to soften the adhesions that may be present.

- Manipulate the tissues in and around the clavicular and sternal origins of the sternocleidomastoideus to break up any adhesions that are present. Also, manipulate along the superior and posterior aspects of the clavicle (i.e., behind the clavicle).
- Twenty minutes after the first ultrasound application, preset the ultrasound unit to deliver a 3 (or 3.3) MHz, pulsed waveform, at 1.5 W/cm². Ultrasound the inflamed zone, utilizing an effective non-steroidal anti-inflammatory as a coupling agent, for six minutes. This is performed to “cool off” the manipulated zone by effectively halting the production of prostaglandins by the stressed tissues.
- Apply mechanical vibration, delivered at 60 to 120 Hz, just distal to the inflamed zone and the clavicle, for two minutes. Adjust the amplitude (strength) of the vibration to a relatively high level, but it should be tolerably comfortable for the patient. This is performed to increase capillary circulation in the involved tissues.

Variation:

- Preset the ultrasound unit to deliver a 3 (or 3.3) MHz pulsed waveform, at 1.8 W/cm². Ultrasound the inflamed zone, utilizing an effective non-steroidal anti-inflammatory as a coupling agent, for six minutes. This procedure is designed to soften the adhesions that may be present.
- Manipulate the tissues in and around the clavicular and sternal origins of the sternocleidomastoideus to break up any adhesions that are present. Also, manipulate along the superior and posterior aspects of the clavicle (i.e., behind the clavicle).
- Apply cold laser (with or without simultaneous electrical stimulation provided by the laser applicator) to the inflamed zone for approximately 6 minutes. This is performed to “cool off” the manipulated zone by effectively halting the production of prostaglandins (or facilitating enzyme destruction of all inflammatories being produced) by the stressed tissues.
- Apply mechanical vibration, delivered at 60 to 120 Hz, just distal to the inflamed zone and the clavicle, for two minutes. Adjust the amplitude (strength) of the vibration to a relatively high level, but it should be tolerably comfortable for the patient. This is performed to increase capillary circulation in the involved tissues.

Response to treatment is generally rapid, with cessation of symptoms almost as soon as the inflamed zone is relieved of adhesions. Continued relief depends on complete and continued lack of inflammation. It should be noted that in very chronic conditions, even after the inflammation has been eliminated, the tissues might continue to produce adhesions, for a short period. It may be necessary to have the patient come in for a follow-up visit to check not only for inflammation, but also for any adhesions that have been newly formed. If the inflammation has been eliminated, generally only one follow-up visit is required to break up any adhesions that are present, though the patient is instructed to return for evaluation if any of the symptoms return.

Post Treatment Suggestions:

The patient should also be instructed to avoid the head and neck positions which seem to cause the problem (the forward head posture), especially when performing intense or long term upper extremity activities. “Keep your chin down when working with your hands.” If the condition is unilateral, caution the patient to avoid turning the head in the contralateral direction while working with the hands. For example, if the condition has arisen from “transcribing” from the contralateral side, put the head in the neutral position (straight on) or to the unilateral side (toward the side that the inflammation occurred on). Often, for computer workers, the solution simply lies in sitting with the back against the back of the chair instead of leaning forward to peer at the computer screen while typing.

Trigger Points

The following trigger point formations may, singly or in combination, imitate or contribute to the pain accompanying an *Anterior of the Scalene Syndrome*: Scalenus, Scalenus (minimus), Infraspinatus, Coracobrachialis, Lower Splenius Cervicis, Upper Trapezius [B], Middle Trapezius [A], Middle Trapezius [B], Lower Trapezius [A], Cervical Multifidus (C4-C5), Supraspinatus (muscle), Supraspinatus (tendon), Serratus posterior superior, Subclavius, Subscapularis, Levator Scapulae, Posterior deltoid, Anterior deltoid, Pectoralis major (clavicular fibers), Pectoralis major (sternal portion), Pectoralis minor, Sternalis, Rhomboids, Triceps (long head), Biceps brachii, and Iliocostalis Thoracis (T6).