* [Current Issue](https://www.massagetoday.com/current-issue)
* [Previous Issues](https://www.massagetoday.com/issues)
* [Columnists](https://www.massagetoday.com/columnists)

**SOCIAL MEDIA**

**RESOURCES**

* [About Us](https://www.massagetoday.com/about-us)
* [Author Guidelines](https://www.massagetoday.com/author-guidelines)
* [Manage Subscription](https://www.massagetoday.com/manage-subscription)

**The Sub-Scap Attack**

*By*[*Debbie Roberts , LMT*](https://www.massagetoday.com/columnists/3491/Debbie-Roberts) *9/2/2015*

Subscap-attack was fondly named by one of my clients who enjoys playing golf 4 to 5 days a week. As I was working on the subscapularis and she was laughing to ignore how uncomfortable this muscle is to be worked on, she gleefully named what I was doing "The Sub-Scap Attack." It is catchy and adds a bit of whimsy to a very important muscle and the absolute importance of understanding how to accomplish appropriate treatment applications to this muscle. I would like to focus on different treatment options of this muscle, the appropriate hand placement, how to know if it is in fact subscapularis causing the posterior pain and how to evaluate if you are making a difference. Let's revisit this often ignored and inadequately worked on muscle and look at a recent case history that was referred to my office in what the client called "his last resort."

**Case History**

This is an unusual but also typical case of subscapularis posterior pain syndrome. He, too, was a golfer but also has an additional challenge in the fact that he only has his right arm. Can you imagine doing everything in your life with just one arm? That alone should tell you how much stress is put onto the rotator cuff. And he loves to play golf, which is usually done with both arms.

"No one has been able to make the pain go away. I have been to several massage therapists and a top notch physical therapist, but no one has been able to make the pain go away," he told me. "I've been dealing with this for several years now, it comes and goes but is always there when I play golf. I took off three months and it only got worse instead of better. The therapist I have seen says it is subscapularis and infraspinatus along with teres minor," he continued.

As a therapist reading this story, what do think happened? If he can tell me and show me the source of the pain, why hasn't anything worked to get rid of the pain? What tests would you perform? What treatment do you think you would pull out of your bag? How would you know if you made it better? How many treatment modalities would you use? What are some other questions to ask in order for you to be the last therapist this client needs to see? Now, let's put two and two together.

First, he is a right-handed only golfer. On his intake form, he drew a small circle on the posterior side of the scapula close to the inferior edge just off center of the right scapula. His constant nagging pain is easy to pin point and correlate with Travell and Simons trigger point pain pattern of subscapularis from the Myofascial Pain and Dysfunction book. To help understand the function of subscapularis during the golf swing, we can look at some EMG studies that were done during the golf swing. Studies done by Dr. Jobe and Dr. Pink found that during the golf swing, supraspinatus and infraspinatus were relatively minimally active throughout the swing. The subscapularis was the most active rotator cuff muscle throughout the swing, especially on the dominant side.

In Travell and Simons, they showed the mean EMG activity of the right subscapularis muscle began at takeaway, with only 15% of the maximum activity elicited by manual muscle strength testing. The activity increased to 65% during acceleration, and subsided slightly thereafter. The left subscapularis muscle maintained a moderate amount of activity during the swing, ranging around 30% of maximum test activity. A similar study of men and women professional golfers reported a very similar pattern bilaterally for women golfers; however, the male subjects showed activity on the right side that started with mean takeaway activity at only 12% maximum test activity, increased to 80% by the time of the acceleration phase, and maintained the level of EMG activity throughout the remainder of the swing. The left subscapularis muscle in men, like both sides in women, maintained a mean of approximately 45% throughout all five phases of the golf swing.

Most of the time, I would say don't chase the pain, that 99% of the time there are other factors and it is part of a kinetic chain involvement, but this is one of those few cases that if we just relieve the abnormal pull coming from tight taunt bands in the subscapularis muscle and its synergistic teres major, along with the muscles that oppose arm-rotation infraspinatus and teres minor, it will cure the problem. You are trying to bring back a normal firing order to the muscles and help the rotator cuff control humeral movement in both the acceleration and deceleration phase of the golf swing.

**Tests**

The tests I performed literally took less than 60 seconds. I asked to see flexion and abduction range of motion. He had no loss, just complained of tightness. I performed manual muscle testing of internal rotation and external rotation. There was no loss of strength and no pain. I asked him to perform a scratch test. There was loss of internal range of motion. Throughout all the tests, you want to ask the same question: Does this cause any pain? None of the tests caused any pain. I asked him to adduct the arm across the body and he could feel the spot on the posterior side of the scapula. "That is where it always is," he told me.

How will you know if you make him better? Simple, there are two positive tests, loss of motion on internal rotation and tightness on adduction. Twenty minutes or less into the treatment, ask him to perform the scratch test again and see if there is more freedom of movement. Ask him to adduct the arm across and see if there is less tightness.

**Treatment**

With the client in a side lying posture, I used a comfortable deep pressure across infraspinatus locating the spot he complained about. I used a small tool that is designed to help break up the fibrous bands of tissue. I followed that with cupping in all directions and specifically over the inferior portion of the scapula. I then abducted the arm out anteriorly as much as possible. This allows easier access to the scapula's anterior surface. I took the flat of four fingers on the inferior side of the scapula and compressed the tissue between my thumb on the posterior side. This was done slowly in a cross fiber friction fashion all along the border of the scapula until I reached the humerus. While still in contact with the muscle, I asked him to do internal and external rotation against my resistance of 25%. I added heat through the use of a hot stone. All of this took about 20 minutes of treatment. I asked him to sit up and perform the tests. The range had improved and he felt less posterior tightness. I just want to you think about how important it is to have the patient's subconscious mind hook up to the fact that there has been a change. This is where the true opportunity of healing can occur in the central nervous system.

Next, the treatment was performed in the supine position. I went under his body and pulled the scapula over to allow my hand to have as much surface area as possible to the inferior aspect of the scapula. I once again used the flat surface of four fingers sliding against the scapula. (Please note: I have not begun treatment yet, I am spending this time getting in the proper position for the treatment.) Then I asked him to medial rotate the arm against my resistance while my hand is still in contact with subscapularis. I once again abducted the scapula a little more and at this time my entire hand is easily softly against the inferior surface of the scapula. Then I began palpation of subscapularis and his felt like bands of steel with no pliability. "No one has ever isolated it like this before," he told me. I stayed in contact with the muscle and had him do internal and external rotation. I would change my position on subscapularis a quarter of an inch at a time and had him continue to perform internal and external rotation. My fingers are moving in a cross fiber friction fashion. I combined this with isometrics holding 6 seconds, 6 times through, followed by a stretch to the next barrier. This portion of the treatment probably took about 20 minutes.

The client sat up and he moved his arm all around, internal rotation was improved and no additional tightness on adduction. "This feels great!" I ended the treatment at 45 minutes and asked him to do another visit in one week, which he gladly signed up for.

Here is what Travell and Simons regard as factors of the clients that can end up with activated subscapularis TrPs:

1. By unusual repetitive exertion requiring forceful medial rotation when the subject is out of condition, as in the over-head stroke of the crawl during swimming, or pitching a baseball. (I have gained many baseball clients by understanding how to treat subscapularis.)
2. Due to repeated forceful overhead lifting while exerting strong adduction.
3. By sudden stress overload of reaching back at the shoulder level to arrest a fall.
4. When the muscles are stress by dislocation of the shoulder joint.
5. At the time of fracture of the proximal humerus, or tear of the shoulder joint capsule.
6. By prolonged immobilization of the shoulder joint in the adducted and medially rotation position

And one I have noted is always following shoulder surgery. I have had the privilege to teach many therapists and of all the muscles that I find that is awkward and the therapist are lacking experience with is subscapularis. They have the most trouble in getting their hands to make appropriate contact with subscapularis. So let me leave you with this last thought for the Sub-scap Attack. Always test a muscles action with resistance and it will reveal itself to you. It will pop out and say hay here I am. Don't guess if you are in the right location with your hand placement, if you will just follow this simple rule throughout all of your therapy you will be the last therapist to see that client.

*Reference*:

* Simons DG, Travel JG, et al. *Myofascial Pain and Dysfunction: The Trigger Point Manual*, Vol.1,2nd ed. Philadelphia: Williams and Wilkins, 1999.