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## **Adhesive Capsulitis: Freezing, Frozen, Thawing Shoulders**

By Ruth Werner, LMP, NCTMB

Dear Readers:

My last column on reflex sympathetic dystrophy syndrome (RSDS) seemed to hit a chord. It seems many of us work with clients who live with chronic pain - clients who feel they have limited options in the mainstream medical community.

While massage is unlikely to be a curative for this frustrating and potentially debilitating disorder, it is clear we have some benefits to offer. The following is an excerpt from a letter I received from Cynthia van der Smissen, RMT, who achieved some success in treating a client with this condition:

I read with interest your article in *Massage Today* (March). I have been working with a client with RSDS for a few years, in conjunction with a chiropractor. When the client first came to my office, I consulted with my advanced-training teacher, who said, "Work with her, the doctors have little to offer." The client's RSDS is in the feet, and she has progressed from being wheelchair/walker-bound to being able to go dancing with her husband! Medication use also has been reduced. The techniques used are massage; a technique I didn't have a name for until I saw Charles Nohava's description of "needleless acupuncture"; and chiropractic adjustment of the foot and toes, performed monthly. Thanks so much for your informative, affirming column.

As the title promised, this month's column is about another painful and frustrating condition, but one that has a much brighter outlook than RSDS: adhesive capsulitis, sometimes called "frozen shoulder."

### **Adhesive Capsulitis: What Is It?**

Adhesive capsulitis is the currently accepted term for one of several disorders grouped under the umbrella heading "frozen shoulder." This group includes any combination of shoulder conditions that contribute to

reduced range of motion (ROM) at the glenohumeral joint, including arthritis; bone spurs; bursitis; rotator-cuff tears; and impingement syndrome. These problems occasionally lead to secondary adhesive capsulitis, but require different types of intervention for complete resolution.

Adhesive capsulitis is an idiopathic (of unknown cause or origin) problem with a peculiar and unique presentation. It typically has a long, slow, painful onset ("freezing"), followed by a period during which pain is reduced, but function is severely restricted ("frozen"), and finally, a period during which all pain subsides and function is fully or nearly fully restored ("thawing"). The entire process can take anywhere from a few months to well over a year.

Adhesive capsulitis can afflict anyone at any age, but it is seen most frequently among women in their 50s. Some researchers suggest that it affects as much as 2 percent to 3 percent of the population at some point, and somewhere between 10 percent and 15 percent of those patients may have it bilaterally.

### **Etiology, Signs and Symptoms**

Because the shoulder joint has less supporting connective tissue than most joints in the body, it has unparalleled mobility and a huge normal range of motion. Even the capsular ligament that links the humeral head to the glenoid fossa is looser than most joint capsules. This increases mobility, but it leaves the shoulder vulnerable to a number of injuries other joints typically don't face, because they're better protected.

#### **Stage I: Freezing**

When the process of adhesive capsulitis starts, the joint capsule begins to adhere to the humeral head. Sometimes, this process is secondary to another injury that limits shoulder use, but it also can occur without any discernable trauma or trigger. This time frame, during which the adhesions between the humerus and the capsular ligament progress and worsen, is the first of three stages, sometimes referred to as the "freezing" stage. The first stage of frozen shoulder can last for two to four months, and is acutely painful in both active and passive movements of the shoulder. Typically, range of motion is lost in medial rotation first, but may progress to all directions.

#### **Stage II: Frozen**

The second or "frozen" stage of adhesive capsulitis lasts anywhere from four months to a year. During this time, the joint capsule thickens and essentially glues itself to the humeral head - particularly the anterior portion. Although range of motion is severely limited during this time, much of the pain usually subsides.

### **Stage III: Thawing**

Perhaps the most mysterious thing about adhesive capsulitis is that after many months of severely limited movement in the shoulder, and progressive formation of connective tissue adhesions between the joint capsule and humeral head, the condition begins to resolve spontaneously. The joint capsule becomes free, pain is eradicated and movement is restored. This process may take a long time; a year or more is not unusual. If completely untreated, it is likely that range of motion at the shoulder joint may not be fully re-established, but the percentage of lost function (again, this is usually in internal rotation) is often not significant enough to warrant further interference. The goal of many treatment options is to ensure that when the adhesions begin to melt, the fullest possible range of motion is recovered.

### **Contributing Factors**

At this time, no single factor has been identified as a direct cause of adhesive capsulitis. Certain statistical relationships have been traced, however, that raise interesting questions. People with diabetes have a higher risk of developing this problem than the general population. The same is true for people with chronic fatigue syndrome; people recovering from heart attacks or strokes; and people with hypo- or hyperthyroidism. Adhesive capsulitis has been investigated as an autoimmune disorder; however, while some immune cell abnormalities occasionally have been observed, this does not seem to be a universal situation. If there is a single reliable causative factor for adhesive capsulitis, it has yet to be identified.

### **Diagnosis**

Generally, adhesive capsulitis is diagnosed based on patient history and clinical tests. The end-feel of the joint is firm, but not as hard as joints with a bony end-feel. Its pattern of progression is predictable enough that it can be identified without a specific blood marker or diagnostic test. X-rays and MRIs may be conducted to rule out other possible scenarios (bone spurs, osteoarthritis, tumors, tuberculosis, etc.), but they are not diagnostic for frozen shoulder. Arthrograms (tests in which a contrast medium is injected into the joint space), give useful information; not only do they show where adhesions may have developed, they also reveal how much fluid the affected joint can accommodate. A healthy shoulder will accept 20-30 mL of dye

for an arthrogram; a shoulder with adhesive capsulitis will only be able to take in 5-10mL.

## **Treatment**

The results of various treatment options for adhesive capsulitis are not exactly cause for celebration. Studies of various interventions show that while they may be successful at restoring full, or nearly full, range of motion, they may not shorten the process. Indeed, overly aggressive physical therapy and exercise, while being painful, also increase inflammation and prolong the freezing or frozen stages. Interventions for adhesive capsulitis typically start with NSAIDs or other anti-inflammatories, then progress to home exercises, physical therapy and perhaps surgery. Cortisone injections may be prescribed to limit inflammation, and allow for the possibility of manipulation under anesthesia to detach adhesive material. This treatment can improve range of motion if successful, but the possible complications are serious: fracture of the humerus; rupture of the joint capsule or subscapularis muscle; and neurovascular or cartilage injury. Surgery to mechanically separate adhesions also can improve ROM, but carries the risks associated with surgery, and significant postsurgical pain.

## **Can Massage Help?**

As always, this is where things get interesting. Nothing in the literature suggests massage can directly affect any of the tissues in which pathological changes are taking place. After all, we can't friction the inside of a joint capsule to reduce adhesions. Furthermore, passive stretching, while important to reduce the risk of permanent loss of ROM, is painful and may exacerbate symptoms if overdone.

So, if you have a client in any stage of adhesive capsulitis, what are your options? A few readers sent me some interesting suggestions. All of them deal with the secondary restrictive effects of adhesive capsulitis, but that makes sense, since muscular restriction reinforces joint restriction, leading to the vicious "use it or lose it" cycle of immobilization.

Kathleen Beruman of Bar Harbor, Maine, wrote the following about working with a client diagnosed with adhesive capsulitis and chronic fatigue syndrome:

In this case, we grated ginger (fresh) in a food processor; put it into a little muslin bag (the kind used for pot-herbs in soup); threw it into about a quart of water and simmered (not boiled) it for about 15 minutes; and applied the wrung-out bag to her shoulder. We started putting a dry towel on top of it to keep the heat in, but my client developed a different technique at home - she covered the ginger

compress with a heated hydrocollator, and found this held the heat in for a much longer time. She did this daily for over a month. Yes, it was a hassle, but gradually her shoulder responded, and she is pain-free and has complete range of motion. She also utilized shiatsu and physical therapy during this time, but she feels strongly that the ginger compress was a necessary component to her healing.

A precaution: people should approach this therapeutic process slowly, as some people's skin is more sensitive, and the heated ginger could cause blistering. It's best to approach this gradually and evaluate the response in increments.

Terry Solomon of Los Angeles, Calif. contributed these suggestions:

I have had a lot of clients with "frozen shoulder." All have been to the doctor and have come away with a handful of anti-inflammatory medication to take. One major thing I found was that 90 percent of these clients do not drink enough water, which led me to thinking that a lot of this whole frozen shoulder thing could be that the fascia between the subscapularis and serratus posterior superior might be getting stuck together, severely restricting the movement of the scapula and radiating pain, just as you see on Janet Travell's pain referral charts.

I have experienced great success using neuromuscular and myofascial techniques on all of the rotator cuff muscles, but concentrating heavily on areas where the subscapularis and serratus posterior superior are supposed to glide across each other. Generally, this requires 3-4 treatments for full recovery, and the clients generally regain at least 75 percent of mobility, pain-free, after the first treatment.

With this treatment you have to be EXTREMELY SENSITIVE to the client, as this is not pain-free work and is quite uncomfortable. To date, none of these clients has returned with a frozen-shoulder problem (five years).

While neither of these stories can function as a fully performed research project, they do point out the fact that just because the "common wisdom" about frozen shoulder predicts pain and limitation for one year or more, doesn't necessarily mean that's what a client has to endure. Thoughtful, educated, sensitive, imaginative massage therapists are finding ways to "break the rules" with intractable disorders all the time. If you're one of them, I hope you'll share your story with the rest of us.

## **Next Time**

The topic for my next column is again your choice. Would you like to read about severe acute respiratory syndrome (SARS) - the "new flu" that is spreading rapidly in Asia and somewhat more slowly in the U.S.; various types of depression; or something entirely different? Let me know what's on your table, so we can share it with everyone.

Until then, blessings,

*Ruth Werner, LMP, NCTMB*

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