Part III

Cervical Injuries

Treatment

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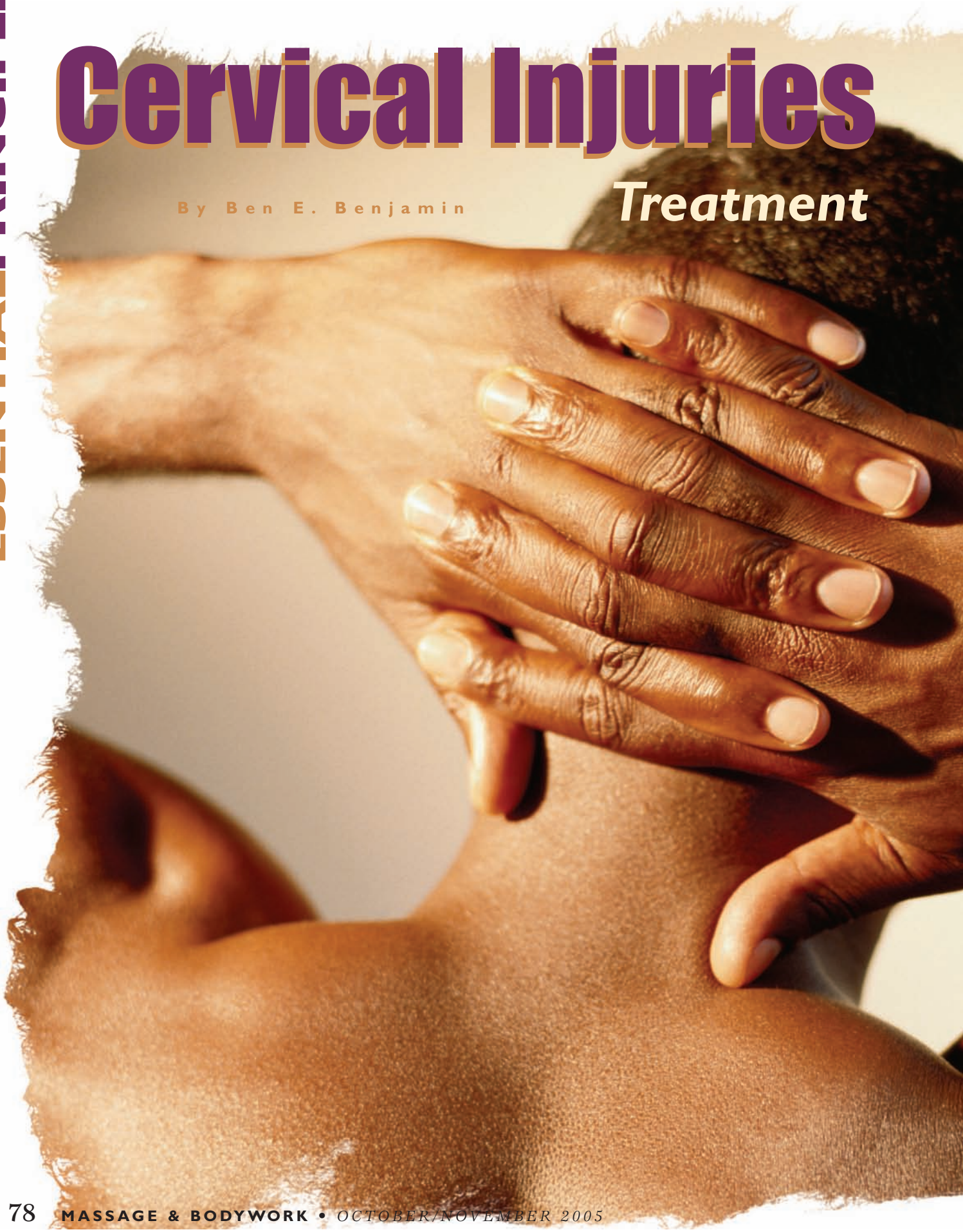

In the last two articles, we examined the anatomy of the cervical region, the causes and symptoms of a variety of different cervical injuries, and several methods for accurately assessing injured structures. This final article pertaining to cervical injuries discusses the range of effective treatments available for these injuries. A firm understanding of these options will allow you to provide each client with the most appropriate treatment recommendations. You'll know when you can help clients through direct hands-on work and exercise and when it's best to refer them to other practitioners for interventions such as manipulation or injection.

Rest

We've all heard the saying, "Time heals all wounds." With some types of injuries, this is true — simply allowing a period of rest will result in full recovery. Unfortunately, this is often not the case with cervical pain. If a neck injury is very mild, a few days or weeks of rest with gentle movement will often allow the injury to heal and the pain to disappear. But if the pain persists for more than a few weeks or continually recurs, treatment is required.

Friction and Therapeutic Massage

I developed friction procedures for the cervical ligaments after several years of using Dr. James Cyriax's techniques on other parts of the body. Cyriax never suggested that friction be applied to the cervical ligaments but my experiences with clients led me to try it out. The most compelling factor was seeing clients who had lived with terrible neck pain for years get better very rapidly with the use of proliferant injection therapy. I watched as the scarred and inflamed neck ligaments got stronger and thicker from these weekly injections. This convinced me that most chronic neck pain was caused not by tension or injury to the muscles, as I had previously thought, but by adhesive scar tissue in the ligaments. At that time, I was having great success using friction techniques on tendon injuries in the shoulder, knee, foot, ankle, and other areas, and I began to wonder whether they would be effective on the cervical and lumbar regions as well. I began trying these treatments on clients for whom injections were too scary or financially infeasible. I was delighted to see how effective frictioning work could be in a short period of time. I have used and taught these techniques for almost 20 years now and have found them to be very effective when used by skilled therapists.

First apply the friction, as described in the following sections, and then follow it with massage of the neck and shoulder area. As you begin treatment, always check with the client to be sure you're not using excessive pressure, particularly when frictioning ligaments. Going too deeply is the greatest error therapists make when applying friction. The treatment should be slightly uncomfortable but not painful. Each day may require a different level of pressure, especially in the beginning.

Continue to ask about the client's comfort level throughout the treatment process, and watch the person's face as you friction so you can pick up cues of pain or distress. Let the client be in charge of how deep you go. At first you may have to work extremely gently — after a severe injury, one pound of pressure can be too much. Also be careful not to work in one place for too long, particularly if it is uncomfortable.

In addition to any discomfort felt during the treatment itself, clients may experience some lingering soreness afterward as well.

Essential Principle: Friction therapy may result in soreness for up to 48 hours.

The therapeutic process of frictioning involves a controlled micro-trauma to the injured structures to remove adhesive scar tissue and stimulate collagen production. After a standard treatment — 5 to 15 minutes of friction — some clients experience no soreness at all, while others are sore for up to two days. Tell the client that the first treatment session is an experiment in finding the appropriate amount of pressure for the body and that up to 48 hours of soreness may result. If you do not forewarn the client and soreness does persist, the person may get quite upset. If the client is sore for more than 48 hours, you are using too much pressure and should lighten up as you proceed.

Myofascial Treatment of the Supraspinous Ligaments

If you are trained in working with the myofascial system, add the following to your treatment protocol.

When there is damage to the myofascial layer covering the supraspinous or nuchal ligament, some of the adhesive scarring and pain originates in the fascial tissues. In such cases, it's most effective to start treatment by working on the fascia, going from the most superficial to the deepest levels of tissue. Use the technique described below to determine whether the fascia is injured.

Sit at the head of the table with the client lying supine, and place your hands under the neck. Place your finger pads or fingertips at the base of the seventh cervical spinous process. Use one hand to stabilize the head as you work with the other hand. Switch the working hand frequently so that you do not become fatigued.

Using no lubricant, drag your fingertips very slowly from C7 up the back of the neck to C3, placing gentle pressure on the fascia covering the posterior-central portion of the spine. Ask the client whether there is any pain or discomfort. Repeat this technique several times with increasing pressure. Discomfort or pain during this procedure indicates that the fascia contains adhesions. If there is no discomfort, move on to working on the ligaments themselves. If there is some discomfort, continue working this fascia very slowly until the soreness lessens. Work up and down the fibers as well as across the tissue. Continue for 5 to 10 minutes until you sense that you've done enough or until the sensitivity of the tissue changes.

Supraspinous Ligament Friction

From the same starting position you used for the myofascial treatment, palpate the spinous processes with your middle or index finger. Feel their shape, depth, and alignment. You can start frictioning at the top of the cervical spine (C2 — C3) and move down or start at the bottom (C7) and move up. To start at the top, press in with the tip of your index finger at the highest part of the spine you can reach. Friction in one direction at a time, pulling your finger across the ligament. Switch hands frequently to let each hand rest. In most individuals, you will feel a gentle snap as you go over the ligament structure. Work your way down one by one to each ligament, focusing your friction on the tender ligaments as you find them. At the beginning of treatment, friction for 1 to 2 minutes at each tender spot. Then, over the course of several weeks, increase to 3 or 4 minutes in each of these areas. If many ligaments are tender, limit your work to a total of 10 to 12 minutes on all the ligaments combined.

Tilted Head Friction of the Supraspinous Ligaments

To friction the most lateral edge of the supraspinous ligament on the right, tilt the head slightly into side flexion to the left. It is most effective to reach under the back of the neck with your left hand and use the tip of your finger to perform this friction. Locating the lateral edge of the ligament takes some time and patience. On some individuals the structures are easy to feel, but on others they are quite difficult to pinpoint. Repeat the procedure on the opposite side with the opposite hand, tilting the head in the other direction. Again, work your way up or down, one vertebra at a time, as described in the preceeding section.

Intertransverse Ligament Friction

Finding these ligaments is easy if you have a solid anatomy background, including precise palpation skills. If you have trouble locating the transverse processes and intertransverse ligaments, find someone who can help you.

With the client lying supine, place the tip of your thumb or index finger in between the transverse processes at the affected level, then press inferiorly and toward the midline of the body and friction in an anterior to posterior direction. In some cases this is easier with the head side-flexed away from the side you are working on. A good alternative technique that works better for some practitioners is using the middle finger to reach under the neck to the opposite side. Work each

tender ligament for 1 to 5 minutes, depending on the client's tolerance and on how many ligaments are injured. If a ligament needs a good deal of work but is very sensitive to the touch, work for short periods of time (30 seconds or less) and keep coming back to that spot. Work other ligaments if needed, or massage the muscles during rest periods.

Friction of the Seventh Intertransverse Ligament

This is one of the most important and useful friction techniques, since the seventh transverse ligament is one of the primary causes of pain felt between the shoulder blades or down the medial border of the scapula. Supporting your thumb by curling your index finger beneath it, push the trapezius back out of the way and place your thumb tip on top of the seventh transverse process. Work your way to the back of the process and friction the intertransverse ligament that goes from TP6 to TP7 in an anterior to posterior direction, pressing inferiorly and slightly toward the midline. Friction for 5 to 7 minutes if this is the only ligament you are treating. If you are working on several ligaments at once, move back and forth between them over a period of 10 to 15 minutes.

Injection Therapy

When more conservative methods have failed, proliferant injections are very effective in treating chronic neck pain due to ligament injury. In some cases, the primary causes of pain are scarred ligaments that are stretched and lax. Massage, exercise, oral medication, manipulation, and other methods of treatment cannot, to my knowledge, tighten ligaments. Proliferant injections irritate and stimulate the ligaments, causing them to tighten, broaden, and strengthen. The injection process also helps to break up adhesive scar tissue.

This method of treatment was originated in the early 1940s by an Ohio physician named George Hackett. Hackett used psyllium seed oil as the major ingredient in his proliferant. Although these injections were successful in tightening the ligaments, the psyllium seed oil caused a great deal of pain during the healing process, and as a result, proliferant treatment fell into disfavor. In the mid 1950s, a physician named Milne Ongley began developing solutions that cause a proliferation of new tissue but are not as painful for the client. Dr. Ongley spent many years working to improve the proliferant solution and the treatment technique. Through his efforts, many physicians have learned the use of proliferants.

A proliferant is generally composed of dextrose (a sugar), glycerine (which helps the blood congeal), xylocaine (an anesthetic, also used by dentists to numb the mouth), and phenol (a sterilizing agent). Dextrose is the primary active substance. By irritating the ligament or tendon tissues, it tricks the brain into producing (proliferating) many like cells of tissue.

There are six steps to the proliferant injection treatment of the neck: →

1. Valium — Valium is injected into the arm so that the client experiences little or no pain during the treatment. Within a few seconds, the person feels sleepy and relaxed.

2. Xylocaine — The affected neck ligaments are injected with xylocaine. The xylocaine fills and softens up the scar tissue, with multiple insertions of the needle to break apart adhesions in the supraspinous, interspinous, and intertransverse ligaments. This procedure takes a great deal of skill to perform correctly and is usually completed in 3 to 5 minutes, depending on the severity of the problem.

3. Manipulation — The neck is then manipulated while under strong traction. The safest way to manipulate the neck is to apply enough traction to decompress the disc spaces. This manipulation breaks down adhesive scar tissue in the ligaments of the neck, restores some lost range of motion, and aligns the vertebrae.

4. Proliferant — The next day, the ligaments are injected with the proliferant solution. These follow-up injections take 2 to 3 minutes and begin the ligament strengthening/tightening process.

5. Exercises — The client is then instructed to do certain exercises daily to put the neck ligaments under slight tension. This stimulates the proliferating action and helps the new fibers to align themselves as they grow.

6. Follow-up injections — Following the initial two-day treatment, the client is treated five more times with the proliferant, as described in Step 4. This is generally done once a week for five weeks, but can be done more rapidly or slowly for clients traveling great distances for the treatment.

The ligaments slowly proliferate new tissue over the next few months, with the most accelerated healing occurring in the first 3 to 7 days following each treatment. The ligaments slowly tighten and increase in strength by 30 percent to 40 percent.

I recommend proliferant injections only after all other treatments have failed to help the client. My experience with them has given me confidence in the validity of the treatment and the theory behind it. I have seen these injections used very effectively, with consistent results, for more than 25 years. They have helped many people with severe or long-standing neck pain that didn't seem to be substantially affected by any other treatment modality. I have also seen the treatment fail on occasion, especially in individuals who had great nutritional deficits, who were under extreme stress, or whose emotional state had a noticeable effect on their pain level. No treatment is a panacea. The practitioner's challenge is to find the right treatment for each individual.

Currently there are about a thousand physicians, mainly osteopaths, who use proliferants. Only a few, however, use them for the neck. Performing these injections correctly is challenging because it requires identifying the injured site(s) very precisely. This is especially difficult in the neck, where there is so much referred pain.

Manipulation

Manipulation is often an effective treatment for neck pain. It can realign vertebrae that are causing a painful pull on the ligaments and can rupture adhesions that are causing pain. If the manipulation is effective, the client will experience positive results in four to eight sessions. Gentle manipulation, practiced by many chiropractors and by practitioners skilled in craniosacral therapy, is more desirable than high-velocity manipulation, which may stretch the ligaments. If the client's condition does not show significant improvement within 10 sessions, manipulation is probably not the most effective treatment for that person. Manipulation is not effective in cases where the pain is caused primarily by loose, stretched ligaments.

Exercises

Clients receiving friction therapy for adhesive scar tissue in the neck ligaments must do a simple exercise program that prevents the scar tissue from re-forming in between the treatments.

The client lies supine with the neck supported by a pillow 2 to 3 inches in height and slowly rotates the head so that the cheek moves toward the shoulder. The movement should be continuous and not forced at the end of range. The range of motion will increase naturally over time as the condition improves. Check the exercise at the next session to make sure the client rotates the neck slowly, without force. Instruct the client to perform 25 rotation sets, right and left, twice a day.

After about a week of treatment, teach the client how to use a neck relaxer device. This gives the person something to do independently that greatly accelerates the progress of the treatment. The device works somewhat like a trigger point technique, applying pressure at various key areas. It retrains the muscles of the neck and shoulders to remain more relaxed.

The Neck Relaxer Technique. In order to do this exercise, the client needs a block of wood in the shape of a triangular prism, measuring approximately 3 inches high by 8 inches long. Each edge of the block is designed to exert a different amount of pressure: one is rounded, one is semi-rounded, and the other is sharp. The block can be made by hand or purchased through *www.benbenjamin.net*.

Give the client the following instructions: Lie supine on the floor, and place the neck relaxer directly under the back of the occiput. To begin, have the rounded edge facing up. Place it at the lower occipital ridge (where the base of the skull meets the neck). As you lie on it, try to relax the muscles of your neck. (Note: If using the neck relaxer is too painful, as it may be if your neck is very tense, place a washcloth over the block to blunt the intensity of the edge. Later, as your neck becomes more relaxed, discard the cloth.)

Now, with the occiput on the rounded edge, roll your head very slowly, first to one side and then to the other. If you find a painful area, leave your head there for 10 to 15 seconds, but never remain in one position for more than 30 seconds. Continue to roll your head, finding all the painful spots you can. If it's too painful to stop at these points, a continual slow, rolling motion may be easier to tolerate. When all the discomfort on the lower occipital line diminishes, repeat the exercise with the neck relaxer a quarter-inch or a half-inch higher. When the rounded edge no longer causes any discomfort, try the semi-rounded edge. When this no longer causes discomfort, move to the sharpest edge, which exerts the most pressure.

In the beginning, perform this exercise for no more than 2 to 3 minutes at a time. As the discomfort decreases, gradually increase the amount of time to 5 minutes. Used to excess, this technique may cause some soreness. If that happens, discontinue the exercise until the soreness is gone.

In Conclusion

Neck pain is the source of a great deal of distress and disability for many individuals. In this series of three articles, we have explored the causes, assessment, and effective treatment of the most common cervical injuries. I wish you success in integrating this information into your practice and helping to free your clients from cervical pain. M&B

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