

# CARPAL TUNNEL and NERVE ENTRAPMENT SYNDROMES

*(4th Installment)*

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This is the last of the four articles on carpal tunnel syndrome and other nerve entrapments. In the last three articles you I presented general information about these conditions, how to identify specific symptoms of these conditions, and methods of using deep tissue therapy to relieve these conditions in your clients. However, many of you as therapists may be on the verge of developing significant nerve entrapment symptoms or carpal tunnel yourselves. In this article we are going to look at ways for you to protect your own hands – the tools of your trade.

## PROTECTING YOUR OWN HANDS

As Massage Therapists, our hands are our most important tools. We are the only healing profession in which hands are used to provide healing therapy for extended periods of time several times a day. However, this intensive hands-on therapy has also made us more susceptible to nerve entrapment and carpal tunnel syndrome. Many Massage Therapists either have, or are in the process of developing, these conditions. Unfortunately, we often disregard these symptoms until the pain forces a premature and painful exit from this rewarding field. Improper body mechanics is one of the chief reasons that Massage Therapists develop this malady. I seldom teach a class where I don't observe Massage Therapists abusing their bodies, arms and hands by using improper body mechanics. For this reason, I emphasize the importance of proper body mechanics in my workshops and training sessions.

For your protection, I will discuss the do's and don'ts as they relate to the prevention of nerve entrapment symptoms of the arms and hands.

## THE DON'TS

### DON'T:

- **Rotate the arms internally**
- **Work with hyperextended thumbs**
- **Work with hyperextended wrist - more than a 60-degree angle**
- **Work with hyperflexion of wrist**
- **Work away from the center of your body**
- **Lean too far across the table**
- **Work on a table that is too high**
- **Overwork**

**Internal rotation:** When Massage Therapists work with their arms and shoulders in internal rotation, you are working in a strain pattern which weakens the muscle strength of the arm. In this strain pattern any repetitive motion or using maximum strength can cause micro tears in the soft tissue, ischemia, swelling, inflammation and accumulated collagen fiber resulting in scar tissue. Over a period of time this will result in nerve entrapment. To demonstrate the dramatic effect this strain pattern has on your muscle strength, hold one arm straight out in front of you. Have a colleague place his/her hand just above your wrist applying pressure downward on your arm. Observe your ability to resist. Now, internally rotate your arm and pronate your hand keeping your arm straight out in front of you. Again, have your colleague push down on your arm as above. Observe the reduced ability to resist, and the need to try to bend your arm or recruit other muscles to compensate for the weakness. This weakness is one symptom of the strain pattern caused by the internal rotation of the shoulders and arms. Many Massage Therapists routinely work long hours doing repetitive motions in this weakened condition. Thus, it is easy to understand why symptoms develop.

**Hyperextended thumbs:** Working with hyperextended thumbs is unfortunately a very common habit of Massage Therapists. The quickest way to shorten your career as a Massage Therapist is to work with your thumbs hyperextended. Many Massage Therapists become over dependent on using their thumbs for deeper fiber work, trigger points, acupressure, shiatsu, friction, or a host of other techniques. Every time pressure is put on the thumb while it is in a hyperextended position, the muscles, tendons, fascia and nerve sheaths of the hand, wrist, and thumb are being overstretched and strained. This stress causes micro tears in the soft tissues, inflammation, swelling, ischemia and resulting collagen buildup. This is a major problem where tendons and nerves pass together through the carpal tunnel or through the notch of bony tissue in the first knuckle of the thumb. The resulting pressure on the tendons and nerves from this swelling and collagen build up causes the nerve to be compressed resulting in pain or numbness, and causes additional irritation on the tendon resulting in increased swelling and inflammation. To evaluate the extent of swelling and accumulation of collagen fibers in your own thumb, even if slight, hyperextend your thumb and locate the tendon that passes through the notch of the first knuckle. Start at the notch and palpate along the tendon into the palm. If the tendon has any thickening or nodules then the above described condition is already progressing. Also, if the thenar eminence is hard or painful from swelling, ischemia, inflammation or trigger points the problem already exists. To reverse the

developing condition, have a Massage Therapist use the techniques I described for working deep tissue in the previous article on the tendon and muscles of the thumb. You will be surprised at how much better your hand and thumb will feel. **Then, follow the suggestions described in this article on the correct way to use your thumbs in order to prevent future problems.**

**Hyperextension of wrist:** Many Massage Therapists work with their wrists extended more than a 60-degree angle between the wrist and the top of the forearm. The resulting stress on the soft tissue is similar to that of working with the thumbs in hyperextension. It causes extreme pressure to be placed on the tendons and connective tissue that share space with the median nerve in the carpal tunnel, resulting in irritation and swelling as well as a build up of fibrous tissue from the strain and irritation. Consequently, carpal tunnel pain and symptoms develop as the median nerve becomes compressed and inflamed.

**Hyperflexion of wrist:** Many Massage Therapists work with their wrists in flexion while pulling tissue toward them or pushing it away. However, working with the wrist in an over-flexed position will compress tendons, connective tissue and nerve tissue against the carpal bones on the top of the hand and wrist causing irritation, inflammation, swelling and an accumulation of collagen fiber. Once this cycle is started, the constant use of the hand and wrist in doing massage can lead to acute pain resulting from the nerve entrapment.

**Working out of range - not centered:** Massage therapists need to use leverage for pressure of deep strokes. This leverage is normally accomplished by standing directly over the stroke allowing the body weight to exert the pressure for the stroke. However, Massage Therapists often position themselves so that the pressure of the stroke is not under the center of their body. Thus, in order to achieve the amount of pressure necessary for the deep strokes, they end up working in strain patterns exerting an extreme amount of pressure on the joints of their arms and shoulder. This causes micro tears in the soft tissue, ischemia, inflammation, swelling, and a build up of collagen fibers and resulting scar tissue. This will eventually lead to nerve entrapment and a pain cycle that, if not corrected, will eventually force the Massage Therapist to leave this profession because of the pain.

**Leaning across the table:** Massage tables come in a variety of widths. Often Massage Therapists will not position the clients close enough to them which makes it necessary to lean over too far when working on them. If you have to bend too far over the table while exerting the

pressure of the strokes, you can cause your body to go into a flexion pattern. This flexion pattern causes the arms and shoulders to go into internal rotation resulting in strain patterns and weaknesses in soft tissue. As noted above, this pattern increases the development of micro tears in soft tissue, ischemia, inflammation, swelling, collagen fiber buildup, and scar tissue, which ultimately results in nerve entrapment and pain. Just because the face cradle is in the middle of the table does not mean that the client needs to stay in the middle throughout the treatment. Make sure you move your clients close enough for you to work without leaning out over the table allowing you to use proper leverage. Another solution is to have a narrower table.

**Improper table height:** In every workshop I teach, Massage Therapists set up tables that are not only too high for them, but too high for anyone else to use in the class, often on the advice of a table manufacturer or a teacher at school. Massage Therapists who do deep tissue therapy need to work on tables low enough to use their body weight for leverage rather than pushing with their hands and arms. When you push with your hands and arms you fatigue easily, work too fast, and tend to push through soft tissue rather than work with it, ultimately injuring your own back and hands. I constantly emphasize lowering your table so you can start to use proper body leverage and pay attention to moving with the tissue only as it releases rather than forcing it to release. This is much easier to achieve with a lower table. An added bonus to having the table at the proper height is that many of the improper positions of the hands mentioned above are corrected with proper body positioning.

**Overwork:** The field of massage is full of opportunities for those who are able to successfully promote themselves. A perfect example is the number of Massage Therapists certified in this Carpal Tunnel Protocol who find that they often have more clients than they can see on a weekly basis. When this happens the tendency is to schedule more sessions in a day/week than their bodies or energies can physically handle. Another scenario that I often observe involves Massage Therapists working for chiropractors who are scheduled every fifteen minutes for a short massage on the area that the Chiropractor wants to adjust. They often don't even have time to use the restroom in a given four-hour period. Each of these situations is fraught with peril for the Massage Therapist. If the Massage Therapist is relatively new or hasn't been working a lot, their hands and bodies are not in proper condition to work extensively or for long periods of time. As their muscles tire they tend to revert to improper body mechanics which promote the internal rotation pattern that is a primary component of nerve entrapment syndromes.

Continuing to work using their muscles in repetitive motions (often using maximum strength) in this inappropriate pattern can cause microtears in the soft tissue leading to scar tissue build up and adhesion problems. They then can begin to experience pain and any or all of the symptoms of nerve entrapment. Also, when the Massage Therapist's whole body becomes tired, it is more prone to injury when applying the force necessary to work deeply. New Massage Therapists need to work slowly and increase their daily sessions only as they develop strength and their bodies become properly conditioned either from doing massage or strengthening through working out. Usually three or four one-hour massages a day are plenty for a new therapist. Even when therapists have been doing massage for years they have to limit the number of sessions they do a day/week or they tend to become tired and begin experiencing problems. Each therapist needs to pay attention to his/her own limits as to strength and endurance. Therapists will also have times in their lives when they are under additional stress, weaker physically due to illness or diet changes, or in a low energy cycle. The more they pay attention to these conditions and adjust their work schedule accordingly, the less likely they are to develop problems from overwork.

## THE DO'S

### DO:

- **Schedule according to your strength**
- **Schedule with breaks**
- **Use proper body mechanics**
- **Have preventive treatments**
- **Have treatment when you have symptoms**
- **Protect your thumbs**
- **Work on a table set at the appropriate height for you**
- **Flexibility stretching of the hands, wrists, arms and shoulders**

**Proper scheduling:** Schedule the type, number and duration of massage sessions within the limits of your strength and endurance. Don't fall into the trap of taking care of others at the expense of your own health. This sounds easy, but it is not. There will always be clients who have problems that need immediate attention, and being a caring person you will want to help. You will be challenged if it is at the end of your day or you have already done the maximum number of massages for your strength and endurance. Just saying no will seem heartless and not caring. However, if you consistently overextend your limits there will be even more clients in the future that will suffer because you will have problems of your own and not be able to work on them at all. Saying no, and scheduling them in the next

available opening is actually the kindest course of action you can take for you both. Even if you did try to treat "this one last client," you would not only compromise yourself, but also the quality of care you give the client. You could also refer them to another Massage Therapist would have the time and energy. Remember that money is no reason to overwork yourself. Money can't buy back your health.

**Schedule with breaks:** If at all possible schedule your massage sessions with breaks in between. You will have a fresher attitude and be rested and able to work more effectively. For some therapists, a break between each session is important with at least thirty minutes between treatments. Other therapists build up momentum and like to keep going once they get warmed up. If you are a momentum person, you still need to schedule breaks. Divide the number of treatments you do in a day and schedule a longer break right in the middle. I look forward to my two hours at lunch and come back rested and ready for the afternoon sessions.

**Proper body mechanics:** Any time Massage Therapists use improper body mechanics they are hurting and potentially injuring themselves. Keep these in mind when applying massage and you will protect yourself. Proper body mechanics include:

- keeping the spine aligned
- keeping the shoulders back and down
- keeping the arms in proper structural alignment, not internally rotated
- keeping the force of the stroke under the gravity line of the Massage Therapist so the force of the stroke comes from leaning using body weight, and not from pushing
- working toward the center of your body
- using the thumb slightly flexed and in an arc
- working with less than a 50-degree flexion of the wrist
- using fingers bunched and supported by each other

**Preventive treatments:** Prevention is the best cure for nerve entrapment problems. Trade arm work with another Massage Therapist. Take a workshop on Carpal Tunnel Therapy and practice with each other, so you will have a highly trained Massage Therapist to go to yourself. Many Massage Therapists don't make the time to receive massages. This is not smart. Every time you have a treatment you are replenishing your own body and preventing the development of problems. Even with proper body mechanics you will need preventive treatments. You will feel better and work more effectively when you do.

**Have treatments when you experience symptoms:** I am sure that many of you who have read these articles

on CT are aware that you are having symptoms of developing nerve entrapment or currently have serious nerve entrapment symptoms. Be treated now! Every time you work with the internal rotation you are making your condition worse. If necessary, you could purchase my book or video (titles), and go to a Massage Therapist who is willing to learn how to treat these problems; or sign up for my hands on workshop on CTS. Check our ad in this magazine for dates.

**Protect your thumbs:** Protect your thumbs by not overusing them. There are a number of things to keep in mind. First, don't use your thumbs to work on big muscles or bunches of bound soft tissue. For big muscles or fibrous bunches of tissue use a big tool like the soft fist. When possible, use bunched fingers that are supported rather than the solitary thumb. Use the thumbs together for added support. This takes some maneuvering, but you can arch the thumbs slightly into flexion with the ends of the thumbs touching and pressing toward each other giving both of them support. Even with these suggestions, there are times when a single thumb must be used. When using the thumb by itself, have it slightly arched into flexion and do not let it become hyperextended.

**Appropriate table height:** Table height should be low enough so that you can use your body for leverage for the force of the deep tissue strokes. If you cannot lean over the stroke then lower the table. It helps to have one of the electric tables so when you have different size clients you can adjust it with one button while the client remains relaxed on the table. Otherwise, be willing to make adjustments to the table for each client and body area you are going to work. The tendency is to have the table height too high since Massage Therapists usually learn to adjust their tables for effleurage and other gliding strokes where leverage isn't of primary importance. I feel it is better to have the table lower so you are able to use leverage, and, if necessary, bend your knees for the strokes that need less pressure. You will protect yourself and avoid the internal rotation pattern that precedes nerve entrapments.

**Flexibility Stretches:** Massage Therapists need to maintain the flexibility of their hands, wrists, arms and shoulders with flexibility stretches. There are many good routines already established. Stretching in the morning before starting massage and again in the evening after a day of doing massage is an excellent way to maintain good healthy hands. After all, our hands and arms are our most important tools! They need to be cared for and protected. **Without them you can't do Massage!**

I hope you have enjoyed this series of four articles on carpal tunnel and nerve entrapment syndromes of the arm. My goal is to increase your success in treating your clients who suffer from these conditions by expanding your knowledge and expertise. If you are interested in more in-depth information and the specific protocols for carpal tunnel and nerve entrapments, you will find them in my book (RELIEF FROM CARPAL TUNNEL PAIN and OTHER NERVE ENTRAPMENTS) and my videotape of these techniques (BEYOND PAIN: CARPAL TUNNEL). I also teach the protocols from my book in my carpal tunnel workshops.

I will now be writing a regular column entitled SET TALK. Let me know of any topics you would like me to cover. For more information please see my ad in this issue. I look forward to seeing you around the state during my travels. Happy healing hands!