6

Modifying Your Techniques

Applying the general principles of ergonomics and good body mechanics to your work is the first step on the road to career longevity and musculoskeletal health. The next step is to examine specific techniques you use, and identify those that are stressful to your body and can lead to injury. When evaluating your techniques, keep in mind one primary rule: *if it hurts, don't do it*. If any of the techniques you use cause you pain or discomfort, even if it is only for a brief time, you could be damaging your tissues. You will need to find alternate techniques that allow you to remain comfortable and symptom-free as you work. Until you stop doing techniques that cause musculoskeletal symptoms, you will continue to injure yourself, and your symptoms will not go away. Techniques that do not cause pain but feel uncomfortable or awkward should also be avoided or adapted. Those feelings of discomfort are often the first indication that the techniques you are using may eventually cause pain and injury. Changing your techniques before your body sends you the pain signal can stop the injury process before it gets started.

The primary injury prevention rule for specific treatment techniques: if it hurts, don't do it.

Reducing Stress to the Fingers and Thumbs

Among the most overused parts of the manual therapist's body are the fingers and thumbs. These small, sensitive parts of the body are perfectly adapted for precise, intricate work and for providing tactile feedback. Manual therapists tend to use them extensively as pressure tools, a use for which they are not well suited. Because these structures are easily injured, it is important to find alternative techniques that allow you to minimize the time you use your fingers and thumbs in your work.

Fingers and thumbs are frequently used for techniques such as cross-fiber and other types of friction, breaking up adhesions, performing light effleurage on delicate areas, and working through deep layers of muscle and fascia in small or very specific areas. Using the tips of the fingers and thumbs to apply pressure is a common technique for releasing trigger points and myofascia. Many techniques used in manual therapy, reflexology and treatment massage extensively use the thumbs in a repetitive manner. Fingers are relatively long levers with very little supporting musculature to stabilize them. You must use your forearm muscles to move or apply pressure with the fingers. By doing so, you increase pressure in the carpal tunnel, elevating the risk of tendonitis, tendonosis, tenosynovitis and carpal tunnel syndrome. Sustained pressure applied with your fingertips can cause them to lose sensitivity. That sustained pressure can also increase joint laxity and damage the cartilage between the joints. All techniques that use the fingers and thumbs to apply pressure are inherently risky, and the repetitive nature of these techniques, when combined with force, can result in injury.

You may feel that a few of the techniques you do with your fingers and thumbs are so effective that you are not willing to give them up, especially if you

Reducing Effort in Your Sessions

Manual treatment work can be fatiguing. When you are working near your maximum level of effort with muscles that are fatigued, injury is likely to occur. It helps to know your maximum level of effort, and then consciously work at a much lower percentage of that maximum. Everyone has a different maximum level of effort. You can identify your maximum level by your perception of the effort you use in your work.

Think about grading your techniques according to the effort you use to perform them. Use a scale of 1 to 10, where 1 is practically no effort and 10 is the most effort you could possibly exert. To be safe, stop using any technique you rated 6 or more; limit techniques with a 3–5 rating to no more than once or twice per session; and any techniques that you do repetitively should not have a rating of more than 2.

cannot find adequate alternatives for them. There may be some areas of the body that you feel are too small or delicate and would be endangered or unreachable with any other part of your body or technique. Certainly there are some muscles, such as the subscapularis, that would be hard to work on with any other part of the body. Muscles in sites of potential endangerment, such as the scalenes, require both the precision and sensitivity that the fingertips provide. You can certainly continue to use your fingers and thumbs in these cases. The goal is to stop overusing them in your treatments, not to stop using them altogether.

It is particularly important to limit the time you use your easily injured thumbs. Set a limit for how much time you will use your thumbs in any one session, and use them only in those instances when you feel you have no other good choice. Keep your effort down to a "light" or "easy" level when using your thumbs repetitively. To keep your thumbs healthy, use them as little as possible in each session, and even then for only brief periods before switching to a different part of your hand, or a different technique altogether. The idea is to stop using your thumbs *before* the muscles that support them become fatigued, so your thumbs remain in proper alignment when you use them.

Applying and Maintaining Pressure with the Fingertips or Thumb Tips

If you use your thumb to apply downward pressure, the healthiest method is to keep the thumb supported and in line with the rest of your hand and arm, with a "power hand" over it to help provide the force. Keep the joints of the thumb essentially straight with just a slight amount of flexion, avoiding both hyperflexion and hyperextension. In this position, you can use the fist and fingers to support the thumb. To work on trigger points, try first palpating with the thumb, then laying your forearm on top of the thumb to apply pressure. In this way, you avoid stressing the CMC joint by using the delicate muscles of the thumb to apply pressure. If you are using gliding pressure with the

Keep your thumb straight, not flexed or extended, to protect it when applying downward pressure.

thumb along the length of a muscle, ensure that the base of the thumb (the thenar eminence) stays in contact with the client's body so that pressure is not applied exclusively with the tip of the thumb.

Avoid applying pressure with just one finger or thumb by itself, which places too much stress on that one digit. It also forces you to hold your other fingers out of the way, creating an awkward position that increases stress on the hand and wrist. Try to use several of your fingertips together as a unit if you use them in your work. In situations where you need to apply pressure in a tight space—when working around the neck, for example—use your index and middle fingers together, since these are your strongest digits. If you can, brace them with your other hand by laying it across the back of your knuckles.

Keep the entire thumb, including the thenar eminence, in contact with your client when applying gliding pressure.

Any combination of hyperextension and flexion in the IP and MCP joints of the thumb will increase the force concentrated in the CMC joint, and should be avoided.

When applying pressure with the fingertips or thumbs, take steps to protect your hands and wrists at the same time. Keep your wrists straight, and allow the rest of your hand to relax as much as possible as you apply pressure, to avoid any unnecessary effort or static loading. Keep your fingers evenly flexed at each joint as you work. Don't let any joint bend back into extension, since this position will transfer stress up to the next more proximal joint. It is particularly important to keep the thumb in a good position, since applying pressure with either the interphalangeal (IP) or metacarpophalangeal (MCP) joint in hyperflexion or hyperextension will transfer stress to the carpometacarpal (CMC) joint. The position of your thumbs determines where the forces are concentrated, whether they are born by the muscles or shifted to more delicate, easily damaged structures like ligaments and cartilage.