

Body Mechanics

by Joseph E. Muscolino | Photography Yanik Chauvin



Table Mechanics

BODY MECHANICS ARE COMPROMISED WHEN TABLE MECHANICS ARE POOR

Massage therapy can be hard work and physically stressful to the body. This is especially true if deep pressure techniques are being employed and/or if the therapist is small and the client is large. And when stretching the client, this size differential is even more challenging than when practicing massage therapy. For this reason,

a lot of attention is paid to proper body mechanics, as well it should be. But perhaps there is not enough attention paid to *table mechanics*. After all, the best body mechanics in the world are compromised if the mechanics of the table do not allow for efficient use of our body when generating force to work on the client.

Table photos courtesy of Oakworks Inc. and Comfort Craft.

Following are some key points about what to look for in a massage table, as well as how to employ efficient body mechanics to take advantage of the table mechanics. Employing optimal body and table mechanics cannot eliminate all physical stress to the therapist's body, but it can help minimize it.

Table height

The single most important criterion of table mechanics is the height of the table. There are two ways to create and transfer force into the client's body: taking advantage of gravity by using body weight, and by contracting musculature. Muscular contraction requires effort and can be exhausting, whereas using gravity does not create fatigue. For this reason, it makes sense that we should take advantage of gravity whenever and as much as we can. The problem is that gravity only works in one direction—downward. So we must be above the client to employ our body weight. This requires the table to be low. The lower it is, the more of our body we can position above the client.

SIMPLY LEAN IN

There is a very simple demonstration that shows the effectiveness of having the table low to utilize gravity. We place a weight scale on a table that is positioned at three different heights. In each instance, we simply lean into the scale without exerting any muscular effort; our force will be measured by the scale. The greatest force is created when the table is lowest (Figure 1).

RELATIONSHIP BETWEEN CONTACTS AND TABLE HEIGHT

Of course, taking advantage of gravity is only effective if we are working on the surface of the client's body that is oriented upward, for example on the paraspinal musculature of the client's back when the client is in a prone position. The ideal height of the table varies depending on the size of the client; whether the client is prone, supine or side-lying; and which contact we are using. Ideally, we want to be able to have the joints of our upper extremities stacked (in extension), allow our shoulder girdles to be relaxed downward, and have a stable stance with our feet on the floor. Using finger pads, thumb pads, knuckles or palms requires the lowest table height. Elbow and forearm contacts allow for the table to be relatively higher. A general guideline when using thumb/fingers/palm is to have the top of the table at or just below the level of our knee (Figure 1B). For elbow/forearm contacts, it can be mid-thigh (Figure 1C).

THE NEED FOR A LOW TABLE

The problem is that many tables do not go low enough. Their design has not advanced from the era of massage being only a gentle, soothing modality that required only light pressure. But with the increasing popularity and recognized effectiveness of deep tissue/deep pressure work, therapists who choose to do clinical orthopedic work on higher tables often end up overexerting by “muscling” the massage, and consequently become injured. The obvious solution is to buy a table that can be adjusted to be low (preferably an electric-lift table; see later section: *Electric lift tables*).



FIGURE 1. A weight scale placed on a table at differing heights shows the force created at each height when the therapist simply leans on the scale. A, Just below therapist's knee. B, Just above therapist's knee. C, Height at therapist's mid-thigh.

Before practicing any new modality or technique, check with your state's or province's massage therapy regulatory authority to ensure that it is within the defined scope of practice for massage therapy.



FIGURE 2. A, Table height needs to be lowest when using finger pads, thumb pads, knuckles or palms. B, The table can be higher when using elbow or forearm contacts.



FIGURE 3. Possible mechanical compensations are available when having to work on a table whose height cannot be sufficiently lowered. These include: A, Using a platform. B, Removing entirely the “extension” legs (note: pads placed under the main legs to offer grip and prevent the table from sliding).

COMPENSATING FOR A HIGH TABLE

Unfortunately, there are times when a therapist does not have access to a low table. When, for whatever reason, this is the case, there are a few ways to adjust the mechanics to compensate and protect the health of the therapist’s body. Following are three compensations. As always, follow common-sense safety precautions.

PLATFORM A platform can be bought and kept under the table. When more height is needed, it can be taken out to stand on. It is important that this platform is wide enough and long enough to allow for a comfortable and stable stance. A step aerobic platform usually works very well (Figure 3A). It can be found at most

sporting goods stores or online. And depending on the additional height needed, multiple platforms can usually be stacked.

REMOVE THE EXTENSION LEGS Another mechanical compensation that might help is to entirely remove the “extension legs” of the table.* Often, the extension legs, even when placed at the lowest possible setting, cause the table to be higher than if they were simply removed. For these tables, removing the extension legs can drop the table by an inch or two, or more. The problem is that the legs that remain usually do not have any sort of grip on the bottom, so if the table is being used on a wood or tile floor, it may slide when working on the client. One

* If the extension legs are removed from the table, it is possible that this might weaken the structural stability of the table. To be sure that this is safe, contact the manufacturer before removing the extension legs.

solution is to place small pieces of material that offer grip under the legs to prevent sliding (Figure 3B). If the extension legs are removed, it is also a good idea to cover the screws that jut out by replacing the knobs. Another possible idea is to drill new holes in the extension legs (if they are wooden legs) that allow them to be on the table without raising its height.

USE ELBOW AND FOREARM CONTACTS If neither of these two ideas work, then the last alternative is to work primarily with elbow and forearm contacts.

WHEN THE TABLE SHOULD BE HIGH

As important as it is to have a table that can adjust to be low, it is not always advantageous to work with the table low. For example, as mentioned, using elbow and forearm contacts is best performed when the table is higher. If these contacts are employed with a lower table, the therapist must bend. Unfortunately, many therapists bend at the spine, creating a stooped and imbalanced posture that is unhealthy for the spinal joints because they are in an unstable open-packed position, and unhealthy for the paraspinal (erector spinae and transversospinalis) extensor musculature because it must contract to prevent the trunk from falling into flexion (Figure 4A). Other therapists bend by anteriorly tilting the pelvis at the hip joints. This is better in that the spine is straight, therefore the spinal facet joints are in a more stable, closed-packed position; but the spine is inclined diagonally forward and still imbalanced, continuing to place stress on the paraspinal musculature (Figure 4B). It is best to bend at the ankle, knee and hip joints so that the spine can be both straight and vertical, with the center of weight of the trunk better balanced over the pelvis (Figure 4C). The downside to bending from the lower extremity joints is that if the therapist's knee joint is unhealthy, this position may be painful.

There are many other instances of massage therapy in which a higher table is desired or necessary. For example, when light work is being done, utilization of body weight is not an important factor. In these cases, a higher table is likely desirable. Working into the myofascial tissue on the side of the client's body is also facilitated by having a higher table. When working into the side of the client, the force production must be horizontal in direction. This necessitates force production not from core body weight, but rather by pushing off from the lower extremities (Figure 5ABC).

Electric lift tables

As discussed, there are times when the optimal table height is low and there are other times when the optimal height is higher. For this reason, it



FIGURE 4. Working on a low table with elbow/forearm contacts requires bending. A, Stooped bend. B, Inclined bend. C, Bending from the lower extremities.



WHEN LIGHT WORK IS BEING DONE, UTILIZATION OF BODY WEIGHT IS NOT AN IMPORTANT FACTOR. IN THESE CASES, A HIGHER TABLE IS LIKELY DESIRABLE.



FIGURE 5. Working on a higher table is often advantageous or necessary. A, Horizontal work into the side of the client's body with the table low. B, Horizontal work with the table higher. C, Working down on one knee, which can allow for horizontal work on a lower table.

is imperative that the table height be adjustable. Nowadays, it's rare to find a table that is not adjustable; most tables allow for the height to be changed. However, as advantageous as this seems, many therapists never utilize this feature. They simply decide on a height they believe to be best for them (often too high because it was chosen early on in school when the massage they were practicing involved only light pressure) and leave it there. The reason is that changing table height on most tables is a somewhat onerous procedure of adjusting the height of each of the four legs, one at a time (there are a few table models that do allow for height adjustment of two legs together at the same time at each end of the table, but these tables are relatively rare). Even though changing the height of the legs does not seem to be the most time-consuming or difficult of chores, it is sufficiently annoying to discourage most therapists from bothering, especially if the client is already on the table! As a result, the therapist keeps the same table height whether the client is big or small; whether the client's position is prone, supine or side-lying; whether the area being worked is the neck, low back or an extremity; or whether they are massaging or stretching. Most of the time, the table is too high and the therapist loses the assistance of body weight. Instead, the therapist must rely primarily or solely on muscular effort,



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