



## Protocol

**Actual Goal in Exercise:** To inroad the muscle (*inroad-* to progress through weakening)

**False Goal in Exercise:** To move the weight

**Specificity of Speed:** Aim for a 10/10 movement, which means a 10-second positive stroke and a 10-second negative stroke, resulting in a 20-second rep. Acceptable range is 8-12 seconds for each stroke. Think “As slow as you can go without segmenting”. Do not count aloud or in your head. Let your specialist keep time. You will learn the proper cadence through an inner sense through proper training. This specificity of speed is based off Newton’s 2nd Law of Motion,  $F=Ma$ . Force = Mass x Acceleration. When we apply this to exercise  $F = \text{Injury}$ ,  $M = \text{Weight}$  and  $A = \text{Speed}$  in which you lift and lower the weight. The only way to decrease the chances of injury is to decrease the speed in which you are exercising.

**Breathing:** Breathe normally. Do not try to match your breathing with your stroke speed. Breathe with your mouth open. If your mouth is closed, there is a tendency to hold your breath. Breathing heavily and even hyperventilating may occur when you are close to failure. This is necessary to take in sufficient oxygen, but may bring on dizziness. This is temporary and is much better than holding your breath. We are aiming to combat

**Valsalva.** Valsalva is the holding of one’s breath while exerting; technically it’s a closing of the glottis or vocal chords, or getting a gulp of air in the chest and then pushing hard against it. This can lead to increased BP, decreases venous return to the heart, and affects the inroad process of the muscle.

**Exercise Induced Headache (EIH):** This is rare but can happen from high-intensity exercise. Some individuals are prone to it. If you are prone to this condition, please notify your specialist immediately. What causes EIH? Commonly during exercises for the lower body, increased pressure in the abdomen may cause venous blood to be forced back into the cerebral veins, increasing BP in the brain to the point where the dura mater is stretched. If this happens, it's going to feel like a bolt of lightning shot through the back of your skull, cracked it wide open, and exited through one or both of your eyes. It can last up to 2 weeks. That's why it is so important to alert your specialist immediately if you feel the onset of a headache at any point of the workout. Individuals with EIH or subject to EIH should always start with neck exercises first. The reason that performing exercises for the neck at the beginning of a workout tends to reduce or prevent the onset of EIH appears to be that the increased pressure exerted on the jugular veins caused by edema (the "pump" ) in the surrounding neck muscles decreases retrograde blood flow. This reduces BP in the cerebral veins, which reduces the pressure exerted on the dura mater.

It is best not to develop EIH in the first place, but if you do there are measures which can be taken to minimize the possibility of its recurring. Some individuals may need to complete neck exercises more than once throughout their workout.

1. Do not hold or force your breath during an exercise. As previously stated, this causes BP to quickly increase to dangerously high levels.
2. Perform neck extension and flexion exercises at the beginning of the workout. Always move extremely slowly when performing neck exercises. A 10/10 movement speed is critical.
3. If you are performing a full-body workout, perform it in reverse order, with exercises for the trunk and lower body last.

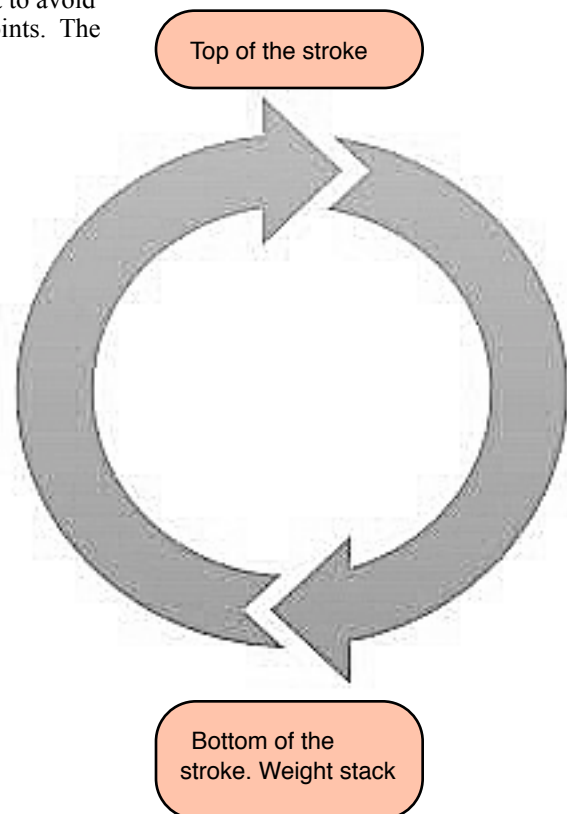
4. Do not grip handlebars tight, or grimace with facial expressions. Consciously try to be as stoic as possible.

**Stoicism:** Stoicism is extremely important during time under load (TUL). Stoicism means relaxed face (no grimacing) , relaxed hands (no gripping), and no talking. Save your questions or comments for after the exercise. If you need to unload unexpectedly, do so safely. No sudden or jerky movements. Movement should be fluid and continuous unless instructed to squeeze the target muscle group (for intermediate and advanced clients). Stoicism allows for ultimate concentration, increased venous return to the heart and also helps in decreasing unnecessary rises in BP which can lead to EIH or a stroke.

**Head in Neutral:** Your head position should always be in neutral, allowing you to keep your cervical spine aligned with the rest of your spine. Proper bio-mechanical form prevents unnecessary soreness and injury. Shoulders should always be low in when your head is in neutral. Placing your fist between your chin and collar bone is usually a good measure of neutral.

**The Turnaround:** The turn-around refers to the top and bottom of a stroke. The bottom of the stroke is when the weight stack touches. You should always barely touch and smoothly start back on the positive. Think of a revolving door. Your specialist will notify you when you are close to the bottom by using the words “*Riiiiigghht There*” The *right* will always be drawn out, to symbolize your warning about an inch away from the turnaround, and the *there* is the actual turn around. Sometimes depending on the client or machine a measurable instruction may be employed. i.e. “half-inch, quarter-inch”. Always listen to your specialist for the turnaround. You should never turnaround too early, unless you are maintaining a pain-free range. It is always best to complete the full range of motion if you are safely able to do so. Never slam the weight stacks. Your muscles will unload if you do this. At the top of the stroke, depending on the exercise you may employ a gradual 3-5 second squeeze (for intermediate and advanced clients). We want to avoid “ringing the bell” at the top of a stroke. Also avoid locking out joints. The weight is transferred to that joint making it dangerous for that joint and also your muscles get a quick break, which is completely counter productive to the stimulus we are trying to achieve. Always remember your movements and turnarounds should be gradual, constantly keeping the muscles under load.

**Attire:** Proper attire is required for optimal results. It is crucial your specialist is able to see shoulders, elbows and knees. Your form is extremely important to your success at Clinical Exercise. Improper form can lead to unnecessary soreness, EIH, other muscle compensation; all which affect the inroadng process. While you do not need to wear traditional work out clothing, ensure your clothing allows us to see the above mentioned body parts. Also ensure your clothing allows you to move freely, throughout the full range of motion. Hats are not permitted. If you wear a belt, you may need to take it off depending on the exercises involved in your scheduled workout.



**Always Remember:** The real goal in exercise. Never compromise your form to move the weight. Respect the facility and the protocol. Please turn your cell phones on silent upon entering the office. Keep conversations quiet, as a session may be in progress. Never eat a meal right before your session. And prepare to focus and work HARD! The worst results we see are from those who are tired or stressed out and not focusing.

**After the Workout:** You should be cautious any time you engage in any high intensity activity. Specifically what you do in the immediate 24 hrs after. With Clinical Exercise's resistance training the protocol is designed to bring your muscles to a temporary failure. If you engage in any thing strenuous after your session you are gambling with the consequences. Very important: If you do any lumbar exercises, specifically on the MedX Lumbar Extension or Linear Spine Extension, you must be very aware of your back 24-36 hours after. The MedX Lumbar Extension is designed to bring your Multifidi muscles to failure. These have a fast twitch profile, which are quick to fatigue and slow to recover. It can take some individuals up to 2 weeks for these muscles to recover.