What is Clinical Strength Training®?

Protocol, Methodology, or Philosophy?

A **protocol** is a set of rules in a situation. For example, if an exercise protocol would be “lift a 20lb. weight stack on this machine.” It doesn’t define exactly how you should lift it – whether you use your arms or legs or whether to stand or sit – it just gives you the basic rule of “lifting.”

A **methodology** is a system of methods used in a particular area of study or activity. A **method** is a rigorous set of rules. For the same exercise example, a method would be “lift the weight stack by grabbing the handles with your hands, while standing. Then pull the handles down as you sit and continue to pull until you reach your pectoralis muscles.” If we combine this method for lifting with other methods for each machine, then we have a *methodology*.

A **philosophy** is a theory or attitude held by a person or organization that acts as a guiding principle for behavior. For example, if our philosophy is that steady-state activity leads to chronic pain, then that philosophy will dictate our methods. Therefore the philosophy will not allow us to include steady-state activity in our exercise program or cause any particular exercise to extend into what would then be classified as steady-state activity.

What is Clinical Strength Training®?

Clinical Strength Training® is a protocol and a methodology. It is informed by an exercise philosophy that emerged from SuperSlow®, an exercise protocol that was first developed by Ken Hutchins in the late 1980s with the intention of reversing osteoporosis in women with severe cases.

Protocol

The basic protocol is low-force, high-intensity strength training that uses a 10/10 cadence for each repetition with each session completed in less than 30 minutes and performed no more than twice a week.

Methodology

Beyond the protocol, each machine has specific methods of use. These methods can be generalized for teaching purposes in this article. Specifics for each consideration below are taught in-person, machine-by-machine:

Positioning
Each client has a different body shape that needs to be accommodated within each machine. We do this through a series of settings and pads added to each machine to ensure proper alignment. This helps avoid injury or strain that can lead to injury. Posture is also crucial and is set and then corrected throughout each exercise by the trainer.

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Breathing Technique
Breathing for this method of exercise involves a pant-like inhale and exhale with a relaxed, hanging jaw. This allows for maximum oxygen intake and little oxygen impingement. The trainer instructs and corrects the breathing technique. Breathing technique also includes avoiding Val Salva Maneuvers which cut the oxygen supply. Proper breathing reduces the risk for stroke.

Verbiage
The words used to instruct clients is important in the successful execution of this training. Because the brain moves into a primitive state during intense exercise, it is important to give simple yet accurate instructions, corrections and coaching.

Additionally, when the exercise goes very deep, it can also stimulate a flight or fight response in the client. Therefore, when coaching, we often use a calm and soothing yet assertive voice and we do not “rally” when getting near the end of an exercise. Instead, we refocus the client and provide support for them to reach momentary failure on any given machine

Attire
Equally important in Clinical Strength Training® is the decorum of professionality within the studio. Professional attire communicates that we are experts in our field as we respectfully administer the exercise to our clients. It shows that we respect ourselves and our clients.

Movement
Within each machine, we seek to maintain the 10/10 cadence while also performing each repetition with perfect form and breathing technique, within the full range of motion.

Failure
The goal is to reach momentary failure on each machine. Failure is when the client can no longer move the weight and has held on for an additional ten second-count before setting the weight down. Failure should be achieved on a positive contraction whenever possible. There is an exception for clients who have a medical consideration that does not allow for full failure to be achieved.

Philosophy

There are many informing beliefs to our methodology. Below are the primary considerations that encompass Clinical Strength Training®:

Safety
Primary to our methodology is the philosophy that anything that compromises a clients’ safety should never be permitted. Some such examples include chewing gum or extreme grunting

during exercise. Slow movement, avoidance of overheating, proper alignment of the head and neck, and breathing technique all constitute safety aspects in Clinical Strength Training®.

Intensity
For an exercise to be considered intense, it must occur to an extreme degree. Any activity that can be sustained for long periods of time such as swimming or walking are low-intensity. Any exercise where full exertion is completed in less than 5 minutes is high-intensity.

Progressive Resistance
All movement involves some level of resistance. Therefore, resistance training is not specific enough. For Clinical Strength Training® it must be progressive as well. That means the resistance continues to increase without ever increasing the amount of time it takes to perform a strength training session. Our exercise can be categorized as progressive resistance training.

Meaningful Resistance
Often, individuals performing strength training choose to do either low-weight, high-repetition sessions or high-weight, low-repetition sessions. However, in order for strength training to be progressive and to reduce the risk of injury, we need the right amount of weight at the right time. Resistance that causes an individual to hit momentary failure after 1:30 minutes but before 4 minutes is considered meaningful.

Duration
If every exercise performed in a strength session has meaningful resistance, then the workout can be completed efficiently in less than 30 minutes. Anything longer indicates the intensity is too-low. For high-level athletes who can sustain high-intensity exercises for longer periods of time, this means increasing the risk of injury as the joints often will take the force once the muscle has hit failure and continues to be required to perform.

Frequency
This refers to the number of sessions per week. The higher the intensity of the workout, the greater the recovery interval will be. Studies done through SuperSlow® have shown that 3-7 days of recovery is generally required between sessions for optimal safety, health, and progression. Recovery does not necessarily mean inactivity. It means no *intense* or *steady-state* (30 mins+) activity. Because the body is put into a highly weakened state upon finishing a Clinical Strength Training® session, it is important that recovery be considered an equally important aspect of the program.

Progression
To be effective, an exercise program needs to be progressive. In this methodology, progression means increasing (or decreasing in case of debility) the resistance. True progression occurs within the same amount of time as the initial exercise session. Most forms of exercise increase

the volume and thereby the duration or frequency. This increases the risk of injury and can actually lower the intensity of the session. In Clinical Strength Training® we are able to progressively increase the resistance without every going beyond 30 minutes in duration.

Environment
The biggest confusion that occurs with the general public when it comes to exercise is the idea that exercise should somehow be entertaining. The truth is that exercise is work and work is not fun. It is physically and mentally demanding. Therefore, the ideal environment for exercise is a clinically-controlled environment devoid of all manner of distractions (mirrors, blaring music, crowds, children, pets, socializing, phone alerts, etc.). Because Clinical Strength Training® also requires a greater degree of intellectual control, we need to ensure that our clients are able to give us their full focus at all times.

Form
Proper form means slow speed of repetitions, proper breathing, and proper alignment. By going slow, we reduce the force of the exercise. In physics, *force = mass x acceleration*. By reducing the acceleration, we can reduce the force, thereby reducing the chance of injury. In traditional weight lifting, heavy weight is combined with momentum. While this helps move the weight, it also takes the load off of the muscles at certain points, causing inefficiency and the moments when the muscles are loaded, are high-force, increasing the risk of injury.

Purpose
Exercise is not performed for enjoyment. It is not fun. In Ken Hutchins' words, "Exercise is not a luxury. It is a basic requirement for a normal, healthy life. You do not dress, brush your teeth, carry out the trash, clean the toilet, bathe, or mow the yard for fun. Although you may certainly derive some satisfaction from these activities, you do them because they are required for life."

We exercise to enjoy the health benefits that it ultimately provides which greatly improves our quality of life, longevity, and our endurance for other activities we enjoy.

Some areas of health that have been shown to be enhanced through high-intensity exercise are:

- Strength
- HDL
- Bone density
- Vascular efficiency (peripheral and central)
- Metabolic efficiency
- Joint stability and protection
- Stamina
- Blood glucose level
- Mobility

What is Clinical Strength Training®?

What improves these areas is primarily the development of skeletal muscle. Skeletal muscle is also the heart of many important processes in the body as it houses the greatest stores of:

Mitochondria
Vascular supply
Water
Nerve Supply

And it is the only part of the body over which we have volitional control. It is also the greatest factor in cardiac output. That's why it is so important to keep our skeletal muscular system healthy and strong!