

How to Breathe During SuperStaticsSM Exercise

by Ken Hutchins, Developer of SuperSlow[®] and SuperStaticsSM Exercise

Note: Consistent with all my writings, machine names are written capitalized and exercises are written in all lower case. Sometimes a machine name is the same as an exercise name. In this way the two are distinguished.

In General

On the surface, this topic should be an unnecessary discussion for all you certified SuperSlow[®], SuperStatics and RenEx *instructors*. (Note that you are not *personal trainers*. Don't let anyone call you that disgusting label. For more on this, see my article on the suggested reading page entitled, *Differences*.) In general, the recommendation is to continuously breathe (to continuously ventilate), thus to avoid Valsalva.

The aforementioned recommendation should be all that is necessary to consider. And these topics and their related concepts like warm-air and cold-air breathing distinctions are thoroughly discussed in my book, *Music and Dance*. Unfortunately, specific and individualistic misunderstandings about breathing can be formidable impediments to a subject's progress beyond some shallow depth of inroad in many, if not all, exercises.

I believe that the best approach to convey correctional steps for some of these specific breathing discrepancies is to provide examples of some of the real difficulties with which I've been challenged. You will note that herein I am better at describing some of the discrepancies than I am at advising how to correct them. But detecting problems is the first step on our way to correction.

Testosterone Joe

During my sojourn in Texas (2014-2018), my brother Kam rolled one of his clients to me who was a strong 60-year-old man. Joe was a kind, gentle guy—until he got into an exercise machine. Then he became an aggressive animal with all the externalizing mentality that I have explained in *The Renaissance of Exercise—I (ROE-I)*. During leg press, for example, as the exercise became challenging, he growled and whimpered and cursed and grabbed his thighs.

I reduced the weight substantially from where Kam had

it and instructed him to perform the exercise without all the antics. For months he would commonly respond to my corrections with, "Well *you* come over here and do this." I merely kept up my instructions as though completely unperturbed. I also sternly reminded him that his comments were not part of his five-word allowable vocabulary (yes, no, hot, cold, ouch). Eventually, he came to see that I was not caving to his silly habits and that I was a rock of unemotional stoicism—a trait he actually respected due to his career in the Navy, I suspect.

Occasionally, he would scream or yell aloud. That's when I instantly raised my voice to say in my greatest volume, "Quiet! No yelling in here! Pretend you're in a library." This always shocked him into silence.

As most of my associates know, I deplore loud, boisterous coach-like jargon and deliveries. It's universally crass and counterproductive. But there are rare situations where I do raise my voice. This is one of them.

In early 2014, I performed a prelude in an Orlando church service. About a minute before I started, a baby began to wail. I wondered what its reaction would be to the sound of the trumpet. Fortunately, it stopped crying with the shock of my first note.

Seemingly, a little bit of the same effect occurred with Joe when I emphatically raised my voice. It let him know that I was totally intolerant with that BS and that offending him with my rules presented no fear that I might lose him as a paying client. Adherence to my rules in my studio is mandatory, not an option.

After many months working with Joe, he became more tractable, although I never could get him to openly breathe when an exercise became truly demanding. He remained in that mode of wanting to Valsalva and not allowing his breathing to free up. On several occasions, I told him that he could learn to work to a depth of inroad that he

could not imagine if only he could open his airway and not fight against himself. He never managed to improve beyond this point of his gasping, thus imposing limits on the effectiveness of the exercise.

Eventually, and for quite a long spell, he refrained from saying, "Well *you* come over here and do this." He finally broke ranks and rebelled again with this phrase. Rather than respond in my usual way with reminding him of his limited vocabulary, I said, dispassionately, "I can already do it and do it perfectly. *You* are in the exercise machine at this time. I am not. This is about you, not me." This stopped his comebacks permanently.

For 3½ years I supervised this subject. I resented having to suffer his condescension and crudeness. I was also disappointed in my brother's negligence allowing this subject's antics to go unchecked. Indeed, Kam had intensive personal experience with this same jock behavior.

My Late Brother Kam

In 1978, I worked for Nautilus, but I was not a formal employee. I was paid a stipend of \$300/ month by Nautilus as directed by Jim Key, MD, Nautilus Orthopedic Consultant, to ghostwrite two books on the treatment of orthopedic injuries. I also served Nautilus at that time supervising the rehabilitation of Dr. Key's surgical patients, performing photography of his clinical treatments and surgeries and doing housework and yardwork for Key. It was during this time that Kam came to visit me.

At the age of 16, Kam rebuilt a Chevy Camaro and drove it from Texas to Nautilus headquarters in Lake Helen, Florida. At Nautilus, I supervised his workouts for a month. Although he worked hard, I seemed to have no effect on his incessant grunting and yelling and screaming during all the exercises.

Ellington Darden, PhD, was the Nautilus director of research. His office was at one end of the gym/ showroom and he heard practically everything that transpired during any workout. Ellington expressed to me his disapproval of Kam's awful loudness and that it was imperative that I not allow it. He was stern about this.

I responded that I did not know what else I could do to make Kam stop these ridiculous antics. Of course, Ellington knew that I was not merely allowing this verboten behavior. He had heard my consistent instructions to Kam to stop. He knew that I was frustrated beyond measure. He knew that I realized that Arthur Jones did not allow such, and he knew that it was embarrassing to me that I could not reign in my own brother.

Ellington commented—a comment that greatly impacted my thinking at the time and that affected my slant on

athletics for the rest of my career—that all that out-of-control yelling was deeply instilled by the football coaches. Growling and yelling was an indicator of a player's toughness and discipline. To be quiet indicated that the player was not passionate about winning. All this nonsense is reinforced by the coaches—and not just in football. Of course, I can't remember players on the golf team or the bowling team or the swim team acting so crassly.

I greatly feared Arthur walking in and hearing Kam's jock display. Fortunately, during the first part of Kam's visit, I had a couple of weeks to get him under control as Arthur was out of the country. But Kam did not improve in this capacity. For two weeks, Kam did get an earful about all of Arthur Jones' mayhem and intolerance and violence. He became more fearful of Arthur than any football player had ever been of any coach.

Then, one day, as I had Kam in a Nautilus Pullover machine—with Kam doing his usual yelling and screaming with each positive excursion—Ellington passed just behind me and within earshot of Kam and while shaking his head in disgust said, "Ken, if you don't get his noise under control and Arthur comes in here and hears that, he's going to slap him around."

As Ellington opened the door and stepped out of the room, Arthur stepped in.

Kam never made another peep in any of his workouts. Arthur's mere presence solved the problem—permanently.

This experience taught me that this problem can be solved. There is no excuse for it! And I hope that this story helps all instructors to stand their ground and to be completely intolerant of such nonsense in their facilities. Someone—usually a male—screaming and yelling like Kam did or Joe did is extremely embarrassing in an exercise studio. And it is deeply disturbing to anyone else witnessing it.

Such actors are likely to strongly argue that they have to make all that noise in order to work hard. This is head trash. Often, the most intense workouts are performed by subjects who—except for their labored breathing—are quiet and unnoticed.

Before going into the next section I do want to share the one other instance where I might raise my voice during instruction. For several years (~2010-2013) I supervised an almost completely deaf 80-year-old woman who had a bad foot problem and who could not remember the general safety rules or the specific entry/exit procedure for the Linear Spine Flexion. I had to yell at her throughout her workouts.

Catherine was very compliant and always very grateful for my attention to her workouts. I recently (2018) met her

with her son at a concert here where we laughed together about the client that I lost (and I feared being reported to the authorities) because it was interpreted that I was verbally abusing Catherine. There are many reasons to supervise workouts in complete privacy.

Breathing Issues Specific to TSC

All of the foregoing regarding Kam was within the context of dynamic exercise. The preceding regarding Joe was within a context that involved mostly static exercise—both TSC (staged TimedStaticContractionSM) and FS (feedback statics). Now I will present some cases specific to all statics.

The general-specific guideline for FS is to produce as flat a trace as possible, but flatness must not be due to Valsalva or breath holding. (Note that breath holding and Valsalva are not synonymous, as many assume!)

Leg Press and Other Lower Body Exercises When performing a static leg press exercise, it is almost certain that the subject can isolate his ventilation from the force generated by his legs. Of course, without FS, this is difficult to assess. But with FS, almost any subject can eventually learn to produce an almost perfectly flat force tracing while breathing laboriously.

Some FS leg press designs (see photo below—what I call "poor-man leg presses") have the seat back at a right angle to the seat bottom. This not only congests the belly of all but the most lean subjects, potentially leading to a hiatal



hernia, but it also greatly increases the probability that the alternating distensions and retractions of the belly during ventilation will affect the trace.

In a properly designed SuperSlow[®] Systems or RenEx or SuperStaticsSM Leg Press, the preferred (middle) seat tilt is ideal for most subjects. Unless the subject is very fat or pregnant, ventilation should not affect the readout (trace). Even then, the seat back can be tilted, one setting backwards, to the third position (sometimes referred to as the *squat position*), if otherwise deemed appropriate to eliminate this artifactual source.

(I will soon present an article that outlines the requirements of designing a Leg Press ideal for static exercise.)

Lower body exercises can almost always be isolated from the ventilation process when using FS or TSC. Of course, an instructor is much more likely to notice this discrepancy with FS (ibid).

Chest Press and Chest Fly Typically, a static chest press and chest fly like that provided by the iPec can be performed effecting a fairly flat data set (The iPec is a digital device without an analog-type *trace*). This indicates that ventilation, although these exercises involve the chest musculature, can be reasonably isolated from the force produced in these exercises. This is explained in that the lower trunk—where diaphragmatic and abdominal contraction bellow (verb form of noun, bellows) that area inward and outward—are not necessarily involved with the chest musculatures.

Overhead Press, Triceps, Biceps What I say for the Chest Press and Chest Fly roughly applies to these static exercises, at least when performed on the Ren-Ex devices. The exception might be that a static biceps—while with acceptable amplitude when performed on the iPOPD—is much wider (vertically, not laterally wide) when performed on the iMulti. This is because the iMulti biceps exercise is usually performed with the subject's chest (sternum) on the pad which is directly connected to the load cell. And this leads to a discussion of those exercises that display—and should display—the greatest amplitude during performance.

Pullover and Pulldown These FS exercises—performed best on the iPOPD—are expected to produce greater amplitude during performance than most of those already discussed. This is because the abdominal muscles are (directly or indirectly) tremendously involved in these two exercises. The abdominals also vigorously and alternately contract against the diaphragm during ventilation. Again, the directive is: "Sustain as flat a trace as possible but not by controlling your breathing whatsoever."

A pound amplitude is a sign of great control in the pulldown exercise as performed on the iPOPD. A little more is not unacceptable. A lot more is an indication of *surge-sync* (see next major sub-heading).

As pulldown is a compound movement, expect to show less control when doing the simple (single-joint) pullover FS on the iPOPD. Thus, the amplitude during pullover, will be greater.

Compound Row Performed on the RenEx iMulti Note that the increased amplitude witnessed during FS pullover and pulldown occurs even though no part of the trunk directly touches the load cell. When performing compound

row on the iMulti, however, the load cell is tantamount to being directly on the sternum. This projects the ventilation action to the trace. And this can be expected to produce an amplitude measure that is similarly broad as that in the pullover or pulldown when performed on the iPOPD.

Some subjects produce an abnormally broad amplitude when performing this exercise because their enlarged bellies are part of the issue. In this case the subject may require special padding to position the torso more posteriorly on the seat so that the belly is no longer compressed and so that reactionary force is concentrated into the sternum.

Note: I sometimes notice photos of compound row being performed with the shoulders retracted, the chest up and the lower sternum (xiphoid area) and upper abdomen bearing the reactionary force. This is bad for many reasons and it is scandalous that almost all instructors and "trainers" in the general fitness industry teach compound row this way, regardless of the individual modality. From free-weight barbell rows to cable machine rows, to compound row machines, all the images in how-to bodybuilding books and fitness magazines depict subjects in the finished position with the aforementioned (incorrect) posture.

To wit, compound row is performed for—among other reasons—the upper back musculature. When the chest is raised—and particularly with the shoulders retracted—the loading goes right to where we don't want it to go: the lower back. Keep the chest somewhat hunkered down and with the manubrium solidly and completely fast against the chest pad.

Only under these circumstances is the body protected from the reactionary forces of the exercise. Herein, it is acceptable to pacify a concerned subject and explain that the sensations of the intimidating chest-pad pressure are benign.

However, when the reactionary force is against the *lower* sternum we are pushing against the xiphoid process—that frail part of the *inferior* sternum. I doubt that it will break off and go into the organs, but I don't want to find out. My medical advisors tell me that I'm probably too concerned about this. They are PROBABLY correct.

When the reactionary force is against the upper abdomen, we are also asking for trouble for those with GERD (gastroesophageal reflux disease). And associated and overlapping with this is hiatal hernia. I repeat: Restrict the force to the manubrium!

Neck Posterior neck performed FS requires the sternum be placed against the sternal pad of the iMulti with the torso in an upright position, not hunkered down like when performing compound row. (There are exceptions to this rule that must be saved for a book on rehabilitation.) As

you might expect, the amplitude of the trace is pronounced just as observed in the compound row and for the same reason that the sternal reactionary force registers directly into the load cell.

When performing anterior neck FS, the body is reversed and with the back against the same sternal pad—now serving as a backpad. Since ventilation mostly occurs as an anterior movement (movement of the sternum and ribs rather than movement of the spine) the amplitude magnitude seen in posterior neck is not expected during anterior neck exercise. There may be some amplitude during the anterior exercise but it is not nearly as dramatic as that observed in the posterior exercise.

However, there is a serious discrepancy to be on the lookout for. I call it *surge-sync*.

Surge-Sync

Although I may be incorrect, I believe this discrepancy to be purely an unwanted consequence of FS. I find it to be rare.

From studying *ROE-I* and the previous published editions of *SuperSlow—The Ultimate Exercise Protocol*, many readers are already aware of *Valsalva sync*. And if you don't know about Valsalva sync, you must get these books and make yourself informed.

Surge-sync is different in that it does not involve Valsalva.

With surge-sync, the subject surges each time he exhales. In other words, he fails to isolate his breathing—as much as is reasonably possible—from the force outputted by his involved body parts.

Whereas the trace on his static leg press should deviate only a pound or so when expertly performed, his surge-syncing produces an amplitude of 10-30 pounds. And when the trace on his static pulldown is only a pound or so when expertly performed, his surge-syncing produces an amplitude of 10-15 pounds.

And, yes, surge-sync is another form of off/ oning.

I had two subjects in my Texas clientele who profoundly displayed surge-sync. One was an 85-year-old pediatrician who developed it on static leg press. Once I noticed it in his trace, I merely alerted him to quit pulsing and to provide an even, continuous force. He then admitted to me that he had not realized he was doing it. He stopped and never resumed it.

The other subject was an 82-year-old, petite woman. I first noticed her surging on the iPOPD performing the pulldown exercise. I was in disbelief when I first noticed her

amplitude oscillating from 15 to 27 pounds—a 12-pound swing—about 50% of her target load. This was my first experience with this discrepancy.

I instructed her to hold the trace as flat as possible. With her hearing challenges, my message was blunted and confused. She reacted with, "I think I should quit your program if I can't do it correctly."

I let this go for the moment. Then on the next workout, I explained that we were going to do the exercise in a better way. I instructed her to perform the exercise TSC with her eyes closed. I also turned off the computer monitor. Most of the surge-syncing ceased.

Once I was onto this discrepancy, I began to notice her doing exaggerated amplitudes during posterior neck and trunk extension performed FS on the iMulti. I slowly eliminated all feedback from all her exercises except leg press. I still detected some surge-syncing in her leg press FS, but I managed to damp it to an acceptable degree.

Over a period of several months, I struggled with this woman's surge-syncing habit. I came to realize that once it starts with a subject, it may be very difficult to correct.

Note: This article was prompted by questions and suggestions from John Tatore. Thanks, John!

Note: I will make changes and additions after more questions and suggestions.

Note: This article has been edited by Lou Gardner. Thanks, Lou!

Note: This article was edited and reviewed by Gus Diamantopoulos. Thanks, Gus!