

# Pandiculation “Light”

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**Scenario:** Your client tells you that he felt tighter after pandiculation than before. What do you do?

- (a) Have him pandiculate very, very gently.
- (b) Massage the tight muscles to loosen them up.
- (c) Kinetic Mirroring and Means-Whereby
- (d) Have him pandiculate synergists or antagonists of the tight place.
- (e) Have him pandiculate the tight muscles, again (and again, if needed).
- (f) Have him hang upside-down on a gravity-inversion rack.
- (g) Launch him into outer space.
- (h) (a) and (b)
- (i) (c) (d) and (e)
- (j) all of the above

Confused? Don't be. The answer comes from understanding the principles and processes of somatic education. This essay talks about them.

The answer, according to me, is (i).

I imagine that some readers may take exception to what I say, here. So, after I've had my say, **test what I have said**. Learn whether what I say is so, or not. Of course, I recognize that, as with all matters “somatic,” “Ya gotta wanna.”

## Why Answer “(i)”?

To begin my answer, I quote Thomas Hanna:

*When sensory-motor amnesia occurs, we can say with certainty that subcortical reflexes have robbed the cortex of its learned controls.*

T. Hanna

[“Clinical Somatic Education: A New Discipline in the Field of Health Care”](#)

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When we hear that a client has gotten tighter, we know that his sub-cortical reflexes still have control of his muscular action. He has not yet successfully shifted the locus of control to his voluntary level, at the neo-cortex.

That's where pandiculation comes in.

Again, to quote Thomas Hanna:

**Pandiculation** is the name given to an action pattern that occurs generally throughout the vertebrate kingdom. It is a sensory-motor action used by animals to arouse the voluntary cortex by making a strong voluntary muscle contraction in order to feed back an equally strong sensory stimulation to the motor neurons. It is a way of "waking up" the sensory-motor cortex.

... This voluntary contraction, if both strong and prolonged, creates exactly the sensory feedback the cortex is lacking. If this strong contraction is released very slowly, the sensory arousal of the motor neurons is such that, when the muscles are released to the point of their original contractile rate, they continue to release below that rate -- to thirty percent, then twenty percent, then ten percent, until the ideal state of zero involuntary stimuli in the muscle is reached.

T. Hanna, *ibid.*

Note the use of the word, "strong." To make such a shift, the degree of voluntary control, asserted from the neo-cortex, must be greater than that being asserted by sub-cortical habituation patterns. Voluntary control supercedes (takes over from) reflexive control. The locus of control shifts from the subcortical level initiating the movement to the neocortical level initiating the movement. The shift occurs by means of a cortical (voluntary) action: pandiculation.

### **When is Cortical Control is Greater than Sub-cortical Control?**

Let's consider how we determine whether the degree of cortical control is greater than the degree of sub-cortical control. I suggest two criteria: one, subjective, the other, objective.

Subjectively, it's determined by how the action feels to the person pandiculating; when cortical control is greater than subcortical control, he feels the muscular action of pandiculation as being well under his control, not *maybe* under his control, not *tentatively* under his control; well under his control. His contact with you, his somatic educator, is firm and steady. It's a subjective thing, and a subjective measure can't be quantified; it's a felt thing.

Objectively, it's observable as a greater force of muscular contraction than the habituation maintains. Here's a test: Suppose you are just starting a Green-Light lesson. Your client is prone. You lift the "bent elbow" arm and let go. If it stays lifted, that's the level of subcortical control; any lifting force added by your client is more cortical control than subcortical control, added by cortical-level action. That gives you a feel for what I'm talking about.

In pandiculation, the person contracts a muscle substantially above the habituated level, then relaxes very slowly. The slow relaxation establishes a gradient of control from strong contraction to slight contraction, to relaxation. That's learning control at the cortical level. If you can feel every hesitation your client makes in the process of relaxation, you are well-matched to your client and giving good sensory feedback. (The lock-in resets the balance of cortical control between formerly overcontracted agonists and inhibited antagonists.)

We're talking about a learning process in which voluntary neural patterns at the cortical level are activated and take precedence over the control of automatic subcortical neural patterns.

Here's an example of the relationship of the two levels. Consider typographical errors. Having learned to type, we use familiar action patterns to type words. The action patterns of typing are largely subcortical, triggered by cortical-level thinking and intention. These action patterns reside in memory and we trigger them when we want to type a word.

Consider the word, "there," for example. If our attention wanders too deeply into our thoughts (or we type too fast) and we lose track of the sensations of typing, we may think, "there," and type, "their." Insufficient cortical control triggered a learned subcortical response, which fulfilled itself automatically as an incorrect action pattern -- a typo, which we must then correct, cortically. Sufficient cortical control is necessary to initiate automatic subcortical action patterns correctly. There.

Pandiculation awakens and reinforces cortical control of subcortical action patterns, whether those patterns are ancient, old or newly learned. We need an adequate level of cortical awakening to control subcortical action patterns, and that means a sensory-motor experience of adequate control (of strength, direction and speed) .

If a person is to "steal back" control from the subcortical reflexes, "Pandiculation Light" is not so effective. You may get immediate improvement, but probably not a definitive change that relieves the person of the sense of having a problem. If he's still so delicate that he can't do a strong contraction

without spasm or fear of spasm, he hasn't mastered his own process; he's not done. Plus, the improvements may be temporary or very gradual, as they often are with methods of somatic education that don't use pandiculation.

So, the usefulness of "Pandiculation Light" is limited in most cases. There are two exceptions, of which I speak, below.

In our scenario, your client has reported getting tighter after pandiculation. What to do?

First, I'll present the "work-around"; then, I'll explain it.

### **The Work-Around**

First: a germane question: Does your client hold contractions that create a postural distortion that *requires* the problematic contraction pattern to maintain some degree of sustainable functioning? In other words, are compensatory postural reflexes keeping your client tight?

Examples:

- If (as I described at Convention 2007) the hip flexors are contracted, they pull the top of the pelvis (and upper body) forward; the person must then contract the spinal extensors to move from the resulting "bowing forward" position to an erect position. The hip flexors are synergists to the spinal extensors, for lumbar lordosis. The postural response of coming to upright triggers the low back tension as a postural "compensation" for tight hip flexors.
- If a person's main muscles of breathing are tight, his scalene muscles will probably also be tight from habitually lifting the upper ribs in breathing for better ventilation. To attempt to free the scalenes without first freeing the intercostals and abdominals is not so effective.
- If a person has had a rib injury, he probably has limited ability to raise his arm above his head on the injured side. To attempt to free the arm and shoulder without freeing the intercostal muscles of the ribs (trauma reflex site) will probably be futile.

Wave 1 practitioners may remember Yochanan Ryverant's instructional segment in our Year 2 training. He made the same point with regard to the

quadriceps muscles; if the client can't learn free control from direct teaching efforts, work with the hamstrings (a topic to be covered at Convention 2008).

In general, we may say that we are not working with *muscles*; we are working with *responses* (action patterns). Action patterns may involve single muscles, but more often, they involve multiple muscles -- movements in coordinated patterns. If you clear up SMA in only part of a pattern, the rest of the pattern will likely call back into existence the tension pattern you just cleared up. To recognize those patterns involves sufficient assessment to see how the multiple locations of tension (SMA) you find in your client are related to a single incident, and for that, to take a complete history of injuries, surgeries, and non-injurious accidents is helpful, if not essential, at times. That's part of our detective work in understanding our clients' SMA.

This kind of assessment requires an understanding of functional relationships that you can develop through somatic exercises, pondering, intuition, self-knowledge, and experimentation – not necessarily in that order! Don't be confused; just use yourself as the laboratory to solve your client's problem. That's what Thomas Hanna recommended and it's what I do.

So, first, handle the postural compensation problem; then return to the problematic area.

Now, assuming you have done so and the vexing problem still remains, here's a technical work-around:

1. kinetic mirroring
2. means-whereby for the movement of the pandiculation to follow

Kinetic mirroring, being a passive technique, teaches the person to relax but does not do much to teach active control. In a Green-Light lesson (Lesson 1), you can repeat the kinetic mirroring of vertebral highlighting a few times. For other conditions, use your knowledge of kinesiology to determine a kinetic mirroring movement: "slowly in, a period of breathing until relaxation occurs, slowly out."

Means-whereby, also a passive technique, teaches the person a movement without need for muscular action. Show him the movement of his next pandiculation a few times.

These passive techniques provide an opportunity to teach Control Freaks (who never let go), Go Getters (who never stop) and Habitual Helpers (who never let themselves relax) what it feels like to STEP-DOWN from their habituated state of Readiness to Act that keeps them uptight – and tight (same thing) – and also reveals to them how they tend always to be ready to act (contract).

In your instruction for somatic exercises, be sure that your client understands:

- to relax **completely** between repetitions of a somatic exercise or pandiculation
- to do the actions at decreasing levels of effort (and movement)

Those are the techniques I suggest.

## The Basic Somatic Viewpoint

Now, we address the problem of Control Freaks, Go Getters (including athletes) and Habitual Helpers. It's a problem of personal adaptation to life – of life-orientation.

First, understand that muscular tension is a *behavior*. As such, it is an extension of the person's temperament – his intentionality, his habitual arousal level. We somas are psycho-physical beings, not merely sensory-motor, reflexively driven beings. We must take the mind into account. Again, if you don't accept my word for it, consider that Thomas Hanna wrote extensively on those points (see *Somatology*, and *The Body of Life*).

**This is not a course in bodywork  
– God forbid!**

-- Thomas Hanna

[Wave 1 lecture, 7-25-07](#)

[34 min:48 sec](#)

see [somatics.com/TH\\_lectures.htm](http://somatics.com/TH_lectures.htm)

The sub-cortical reflexes are tied in with the limbic system, the emotional brain. Said another way, your emotional state shows up as your tension level. "Uptight" is a street-smart observation.

The reflexes of stress start as a state of psycho-physical arousal.

If your client gets tighter or stays tight after pandiculation, and if you've dealt with compensatory postural reflexes, it's probably a sign of his habitual emotional state. His psychology determines his physiology as much as does his sensory-motor habituation. I, personally, know what that's like.

The ultimate responsibility for our adaptation lies in ourselves. You may have to bring something to your client's attention: that his or her way of operating in life – in the mode of Control Freak, Go Getter or Habitual Helper (find your own words and way of saying it) is behind his or her pain. Go Getters, for example, need to take frequent breaks from their work. As Thomas Hanna reminded us: we must change our lives.

Another condition that does not necessarily involve being a Control Freak, a Go Getter, or a Habitual Helper, may pertain: the person's life is in crisis and his mindset is triggering his postural reflexes – generally Landau and Startle Reflexes.

You can't do anything about that. Let your client know that somatic education can alleviate the accumulation of long-term tension and give him some "reserves" for dealing with his life situation, but really, that he has to finish with the crisis period for long-term relief to come.

## **The Exceptions**

Two exceptions exist, of which I am aware, in which Pandiculation Light is useful: "polishing the result" and "working with excruciatingly painful or timid clients."

### **Polishing the Result**

Someone who has relaxed a lot during a pandiculation (you palpate after each pandiculation to determine the outcome), who is either a Control Freak, a Go Getter, or a Habitual Helper, may need a little help learning to let go the rest of the way.

After a strong pandiculation, if you find that he is not floppy and loose, but tends to rebound a bit, an easy pandiculation shows him how to let go the rest of the way. Then, it's somatic exercises for him at decreasing levels of effort.

That's the only exception of which I am aware in which "Pandiculation Light" produces definitive results – and that, *after* full pandiculations.

### **The Excruciatingly Painful or Timid Client**

The second exception occurs during the early stages of this kind of client's somatic education. With the excruciatingly painful or timid client, you may start with kinetic mirroring and means-whereby, then graduate to pandiculation; start with Pandiculation Light until your client is reassured that the process is safe, then have him increase the robustness of his pandiculation within his "zone of safety." Since your client is in control of the degree of force he applies, instruct him never to work so hard as to cause himself to cringe out of pain or fear of pain or to cramp. That's his "zone of safety."

It doesn't avail to work outside the zone of safety because we don't learn self-control well when we are cringing or afraid; we learn self-control best when we feel we are in control of the learning process. It's an application of the Prime Directive of Somatics (as I identify it): "Ya gotta wanna."

### **Pandiculation Light At Its Best**

At its best, Pandiculation Light reaches what I call, The Controlling Moment – the first moments when a person moves from rest into readiness to act. It's the root of action, the subtle setting up of a movement pattern in which the

larger and more powerful muscles add to the subtler movements of smaller muscles.

It's not so easy to reach the root of action when the gross action is already in progress. The "neural noise" of a gross action drowns out the subtle signal of readiness. So, most of the time, it's necessary to do strong pandiculation to bring down the neural noise. Then, Pandiculation Light is a case when, "Less is more."

So, that's my view of the matter. Those who know me know that I'm not very politically correct; I just say it the way I see it and I'm very opinionated. So, test my words, if you are so disposed – or if you have another take on the matter, communicate with me. If you have helpful information, I'd like to hear it.

In closing, I recommend you listen to Thomas Hanna's Wave 1 lectures on pandiculation, dated 7-24-90. If reading this essay from your computer while on-line, click [here](#) to see the topics covered in that lecture. If on-line, to hear his response to just the question addressed in this essay in an excerpt from his lecture 7-23-90, click [here](#) and allow a few minutes for the sound file to load and play.

Let us keep the integrity of the teaching intact in our practice.

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