

## Is your tail wagging your dog?

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One thing we do here at the Hruska Clinic is help to case manage complex patients through our PRIME program. The PRIME (Postural Restoration Integrative Multidisciplinary Engagement™) program is a program that brings patients into Lincoln from across the country and helps them integrate with different disciplines working together to manage postural imbalances using the unique specialties of each discipline. For more information on the details see the [PRIME](#) page on our website. If a patient has a complex case that has not been able to be managed with traditional intervention, including postural restoration techniques, they need integration with other disciplines to manage the input their brain is receiving to manage upright function in their current dysfunctional state. Sometimes just doing PRI® activities to inhibit overactive muscles by facilitating less active muscles and progressing with relearning new movement patterns has not been enough to make lasting change in flexibility, movement, strength or symptoms. These people keep going back to old patterns because that is what their brain thinks is normal, and it has no reason to change the output based on the input it is receiving from the sensory systems of the body for upright orientation.

What does this really mean?

Often when we see patients we start treatment using a ground up or ascending approach. Whether that is making sure the foot and leg position with walking isn't having an influence on the hips or pelvis, or making sure the hip/pelvis position isn't influencing the spine or rib position for breathing activity, or the position of the rib and breathing system isn't influencing the shoulder and neck position, or the shoulder and neck position isn't influencing the head and jaw position depends on the specific patient and their subjective and objective complaints. The analogy I usually use to describe this approach is that of driving a car with bad alignment. If the alignment of the car you are driving is pulling you toward the ditch you will have to expend a lot of energy constantly cranking or pulling the steering wheel to the left to make sure you don't go in the ditch. Going in the ditch is bad, so however hard I need to work the steering wheel to stay out of the ditch I am going to do it even if my arms get a little sore. The steering wheel isn't the problem even if it starts to hurt your shoulders, the problem is the alignment. Often a ground up approach works well utilizing postural restoration non-manual techniques (exercises) and maybe

a good pair of shoes or orthotics to address whatever position or structure is preventing 'easy driving' up above. That picture usually makes sense to most people.

What is going on when that approach fails to provide the changes needed to have success with a rehab or performance program? What if the driver of that car has gotten so used to having to steer left that that is normal? Restoring alignment of the car below, while continuing to steer left, now directs you at oncoming traffic (worse than going in the ditch). What if the steering wheel is stuck pulling left and that is why the alignment below is compensating by steering back to the right away from oncoming traffic. The end pattern is the same but the driving factor is different. The analogy doesn't make as much sense since cars don't actually work that way but I think we can get the picture. With patients that need other interdisciplinary integration such as PRIME integration, dental integration, or PRI Vision integration this is what has happened. They do not know how to allow the steering wheel to get in the right position to allow the car underneath it to assume a normal alignment.

Our body uses a lot of sensory input and primitive reflexes to figure out how to hold us up against gravity and not fall. The brain takes input from the eyes to know where we are at in comparison to the world around us. It takes input from our vestibular system to know what position our head is in, if we are moving, how fast, and in what direction. It takes input from the neck and teeth to know where the head is at in relation to the neck or jaw. It takes input from the hearing system like sonar to position other things in space around us, to know where we are at in relationship to those sounds. It takes sensory, proprioceptive input from the joints and muscles of our spine, hips, knees, ankles and feet to know where our center of gravity is at in comparison to our body. Somehow it is constantly analyzing this barrage of input, making sense of it and telling muscles of our body how to respond to the demands placed on it. It really is a remarkable system. When we have issues that don't resolve from an ascending or bottom-up approach the neck and all the top heavy input is now driving the rest of the body. The tail is now wagging the dog. Something (the neck) that is usually free to adjust to the demands below it is now controlling the body below it. In these cases the brain may be relying too much on the top heavy sensory input of the visual and vestibular system in comparison to the ground up proprioceptive system and therefore the neck is now wagging the body. The brain may also be getting faulty input or skewed input from those systems because of poor occlusion (the way the teeth touch), astigmatism patterns, inability to utilize both eyes together for proper depth perception, injured neck muscles or tendons, and on and on. Either way in order to learn a new way to hold the body up the input that the brain is using to control that system needs to be changed. That is what we do with PRIME integration. That is why with our PRIME patients, or patients who are not progressing with a normal program, even if they have back, hip and knee pain we are concerned with what is going on with the neck. If the neck is wagging the body it will be hard to overcome that pattern without some help or a different approach.