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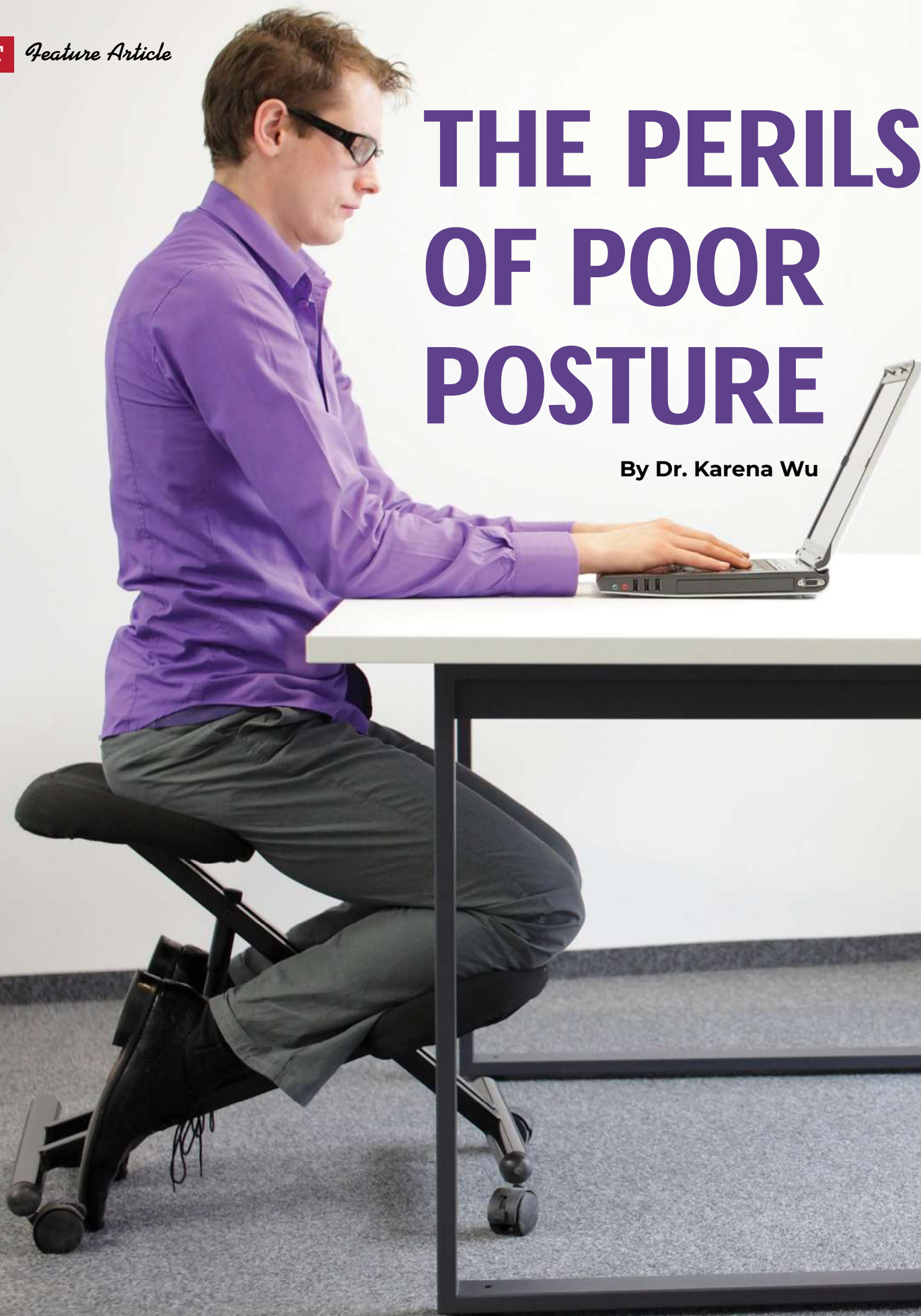
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# THE PERILS OF POOR POSTURE

By Dr. Karena Wu





**L**ow back pain is a leading cause of disability on a global level. Two-thirds of the population will experience low back pain at some point in their lives and it is a primary cause of missed work. The low back is the foundation of the body and is the starting point for good upright posture. Posture is intertwined with multiple systems, its efficiencies and its pains.

Posture has a major role in overall body health and wellness. Good posture allows for proper balance, function and efficiency in motion. Poor posture can lead to imbalance, dysfunction, inappropriate movement strategies and pain. People at work exhibit poor posture from long hours on the job, lack of attendance to their posture and a disproportion of body size to work station. Another reason for poor posture is the fact that work can be stressful and either sedentary or dynamic. That work equates to long hours of sitting or running around and both can fatigue the system. ***All a recipe for success, if you are referring to the classic forward head, forward shoulder, rounded back posture.***

Success in this case is a predisposition for poor posture leading to pain in remote areas.

The human body was built for structure and movement. The musculoskeletal system provides the framework. It allows for support, efficiency and generation of movement and power.

Functional movement starts deep in the central nervous system (brain and spinal cord) and nerves as they exit through openings between bones or along bones. These nerves convey messages from the brain to the appropriate tissues (muscles, tendons, ligaments, and fascia).



Normal alignment and neuromuscular communication yields proper movement strategies, efficiency of energy expenditure, normal organ system function and functional patterns without pain.

Poor posture can affect the musculoskeletal system as well as the visceral system. On a deeper level, it can affect your breath, energy, sleep, digestion and other organ functions. Poor posture puts the musculoskeletal system in an inappropriate position where neuromuscular communication is compromised. This leads to structures being compressed or stretched due to the malalignment of the joints. The nerves of the extremities exit the spinal cord through small openings called foramen. If the spine sits in a position that reduces the space available for the nerve, it can cause a nerve root irritation.

The foramen are small openings on the side of the spinal column that allow the nerves to exist, but they do not infringe upon the nerve itself. Any reduction in foraminal space increases the chances of the nerve being irritated.

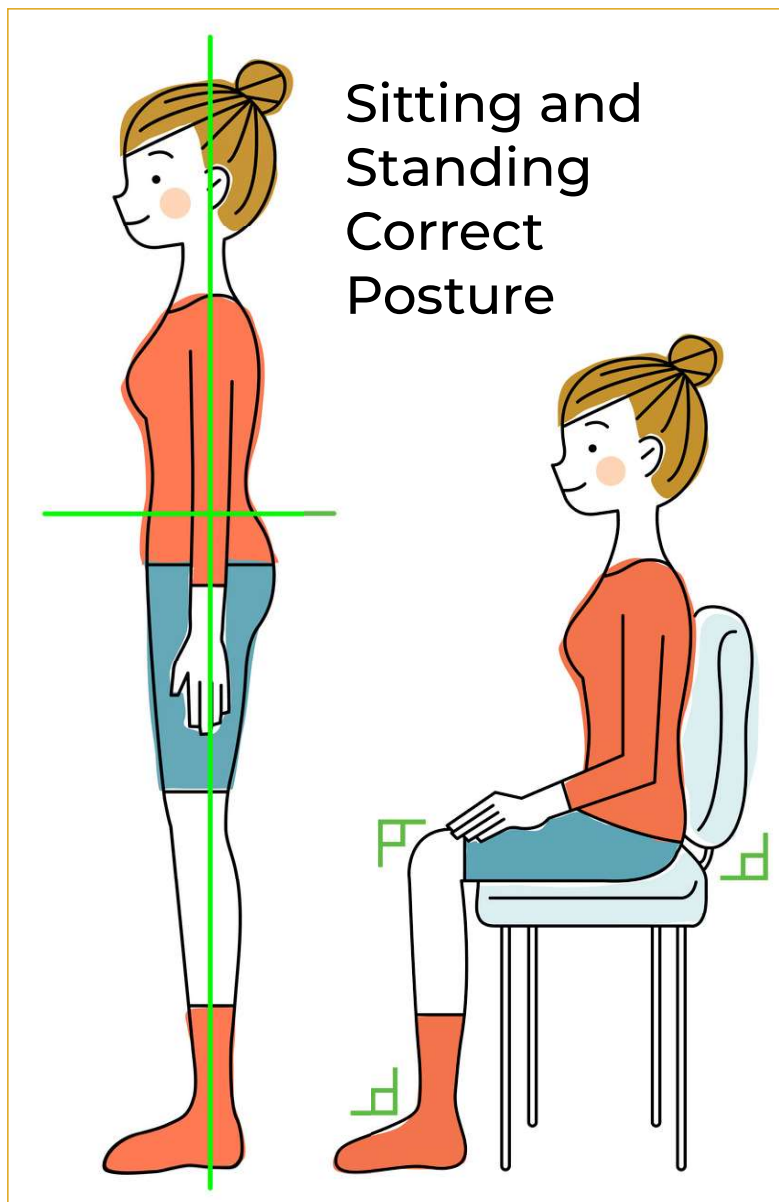
Nerve irritation can cause pain locally where the nerve root exists as well as along the path in which the nerve travels (radiculopathy). In the neck, that could mean pain in the neck, upper middle back, shoulders and down to the fingers. In the low back, that could mean pain in the low back, calf, shin, or pain in the buttock traveling down the leg into the toes. Continuous slouching or bending forward with improper mechanics can lead to this type of structural irritation and subsequent pain and dysfunction. This then leads to compensatory movement patterns.

Those standing for work must be careful not to get lazy with their standing posture and should minimize any laxity in their core. Long hours in a seated or standing position leads to disuse of the necessary core musculature and proper posture needed to maintain good joint alignment and good recruitment of the appropriate supporting postural muscles. Any prolonged sitting or standing with poor posture and fatigue stresses the system and increases the potential to cause pain in remote areas based on a poor central foundation.

To minimize this, it is important to be mindful of your body in space. For every inch forward your head sits in front of your carriage, it increases the load carried down the spine by 10 pounds. Allowing your head to sit forward and your shoulders to hike up lead to an imbalance in flexibility in the upper torso, not to mention the increased stress carried down in the cervical spine.

In standing, that means holding your head over your carriage (your torso), keeping your shoulders back and down (scapular setting) and recruiting your transversus abdominis muscle (the deepest abdominal muscle involved in core stability).

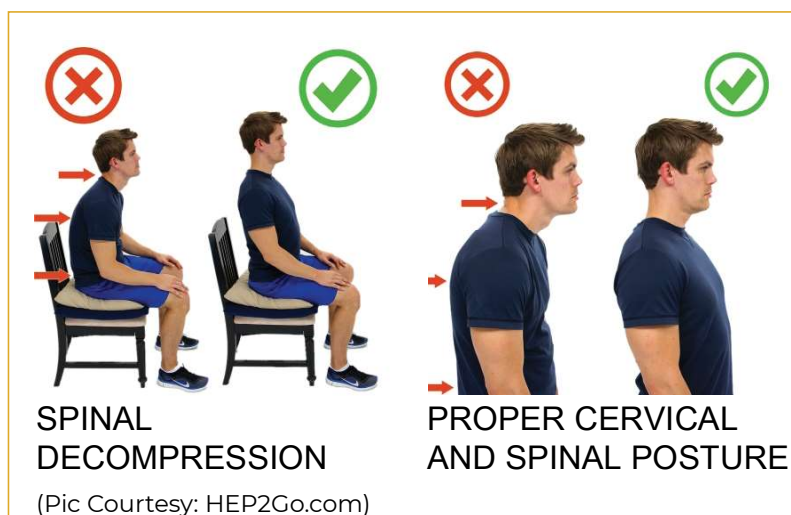
Inactivity of your deep abdominal muscle allows for excessive movement in the spine and malalignment in the low back. This is damaging to the body's foundation where proper alignment of the entire spinal column begins. These positions lead to stress and discomfort in the surrounding tissues as well as remote areas along the path of the irritated nerve.



**Poor posture can affect the musculoskeletal system as well as the visceral system. On a deeper level, it can affect your breath, energy, sleep, digestion and other organ functions.**

Two exercises that can correct posture and reduce compression on structures are **spinal decompression** and **chin retraction**.

**Spinal decompression** can be done sitting or standing. In sitting, place your feet shoulder width apart. In standing, place the feet directly under the hips. Sit or stand with good upright posture by reaching up through the crown of the head to unload the spinal column.

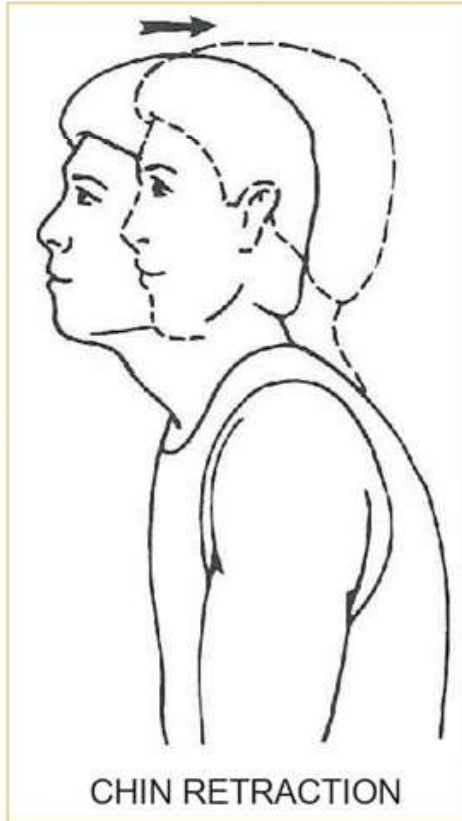


This will increase the space in between the vertebrae (spinal bones), drop the shoulders down and back and pull the abdominals in toward the spine (naturally stabilizing the spine). This exercise also activates the small spinal stabilizer muscles (the multifidi) which control motion between each vertebrae.



**Chin retraction** corrects posture in the upper body by placing the head in the correct space on the spinal column. Sit or stand using the spinal decompression technique previously described.

Move the head backwards in space so that the ear is in line with the shoulder. The chin should stay parallel with the horizon line, not tilt up or drop down.



The head should be centered over the cervical spine. The deep neck flexors will activate which will add stability. The position of the head will unload stress on the cervical spine as the posterior muscles will be in a more optimal position to move the head.

Distal symptoms can have a central cause. If a patient presents with bilateral symptoms, definitely think of a central origin. Therapies that only treat locally will probably not affect the symptoms, which is another sign that the root cause of the problem has not been discovered. Physiotherapists should always be addressing posture first in the home exercise prescription.

**For every inch forward your head sits in front of your carriage, it increases the load carried down the spine by 10 pounds.**

The best effect and speed of recovery is affected by global and local exercises so make sure to address both. It is simple to correct yet one of the hardest for the patient to change as their postural habits are heavily ingrained.

Emphasize postural alignment during every session, demonstrate how it can affect their perception of pain and then layer on the additional exercises needed for full recovery of their specific condition.

This holistic and integrative approach will help you fix your patients quickly and they will appreciate your expertise in their plan of care.

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