STUDENT BAD POSTURE - A SIGN OF INJURY

An adult patient writes of his childhood experience. “In my first year of high school, while engaged in a stunt with friends, I slipped off the trunk of a moving car and impacted my lower torso and the back of my head. X-rays revealed little of interest and painkillers were the only prescribed treatment. For nine years previous I had been an honor student excelling in math, English, and sports. Within two months my desire and in fact ability to absorb material seemed greatly diminished. The short story is that I dropped out of math (ashamed) and barely participated in my other classes until leaving high school after grade eleven. Certainly there are a number of possibilities for these results, however years later it still strikes me as interesting that this trauma, coupled with the resultant pain and confusion, seemed to instigate, seemed to initiate a sudden shift in my life.” (“C.D.”, Edmonton).

Posture-related pain is rarely addressed in medical literature even though it occurs often. The Journal of Adolescent Health reported that “neck and shoulder symptoms are common among adolescents” (1). Pain can be ignored and incorrectly labeled the result of unfit muscles or physical inactivity. Teachers know that unresolved pain can adversely affect academic performance and classroom attendance. Students in pain may actually be suffering from an abnormal posture that is injury related. When biomechanically hurt, the student will look crooked when they stand. A shoulder will appear dropped and the hips will look unlevel. These changes are cause for concern because the joints supporting the student’s head and back now are mechanically irritated leading to inflammation, localized pain and stiffness. To make matters worse, the nervous system can become involved. There are presently four hypotheses that explain nerve involvement that causes serious symptoms such as headaches, arm numbness, and leg pain (2). Progression of the student’s condition affects normal activities of daily living including reading, writing, and sitting. Each of us has the ability to tolerate some postural distortion but the student in pain is experiencing distortion beyond what the body can tolerate. The shy student doesn’t tell the teacher of the pain, with complaints being reserved for the home audience. Parents can become insensitive to their child’s continuing discomfort or the student may withhold information, fearing conflict with their parents.

Dorland’s Illustrated Medical Dictionary limits the definition of posture as simply “the attitude of the body”. There is little Medical information on posture-related injury (3) available but the Chiropractic profession offers much through the internet (4). We see posture not just as a casual observance of the frame but actually a more integral component of health and a key indicator of injury. Unfortunately for many students a detailed postural examination and investigation isn’t received. We now understand that the control mechanism for posture lays in the placement of the top neck bone (Atlas vertebra) under the skull. The injured Atlas will shift up the side of the skull and rotate. Precision Chiropractic X-ray procedures can locate the injured position of the Atlas and mathematically compute a corrective procedure. This profound concept and advanced technology has taken over sixty years to develop. National Upper Cervical Chiropractic Association (NUCCA) trained Chiropractors use an elaborate form of Postural analysis

and Radiometrics (x-ray analysis) to identify, measure, and align the Atlas to improve the posture.

In animal studies we see the genesis of medical support for this Chiropractic model. Stehouwer explored the connection between the neck and posture control in frogs. Stehouwer stated that “the threshold for cutaneously elicited hind limb withdrawal was not changed at either stage of development but righting reflexes (part of posture control) were abolished” (5). In another animal study Neuhuber revealed “the well-known significance of proprioceptive neck afferents for the control of posture” (6). Human research is further validating the Chiropractic model linking the orientation of the head and neck to control of posture. Coulter wrote “responses of these ascending neurons to peripheral nerve stimulation are modified by (head) tilt...thus being able to produce fine adjustments that cerebellar and brain stem structures exert on the control of posture and movements” (7).

The text “NUCCA Protocols and Perspectives” explains the Atlas Subluxation Complex Syndrome which is the diagnostic term for Atlas vertebra biomechanical injury caused by mechanical trauma. Cervical (neck) “whiplash” is a well known example of mechanical neck trauma. Giacomini makes the suggestion that “it appears reasonable to assume that cervical proprioceptive alterations play a preeminent role in the genesis of whiplash-induced chronic postural instability” (8). Traditional, non biomechanical investigations provide limited information about Atlas injury. Investigating neck pain, Siivola shares “... that abnormal MRI (magnetic resonance imaging) findings were common in both study groups (symptomatic vs. asymptomatic young adults)” (9).

By aligning the Atlas with the skull, the posture is normalized and pain will resolve when healing of the de-stressed soft tissue (muscles, ligaments, nerves) begins. Teachers need only remember that the student who stands with shoulders and hips out of level and complains of neck pain, back pain, and/or headaches may very well have an Atlas injury. Had this treatment methodology been available to “C.D.” as a child, perhaps the course of his life would have followed a different direction.

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