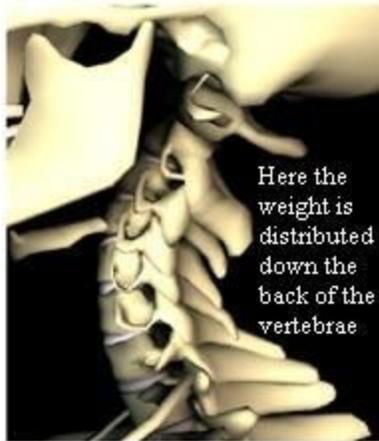


The Cervical Lordotic Curvature

Your cervical lordotic curvature is so vitally important to not just your spine but also your overall health and your lifespan. Research has shown that a loss of the curve in your neck can take 14 years off of your total lifespan. The four diagrams below will explain how the loss of this curvature can be detrimental to your health.

The cervical curve is designed specifically to support an 8 to 10 pound load (your skull) for 10 hours a day in a standing position for 75 to 85 years with out showing wear and tear or arthritis. So long as the position of the curve is maintained, the weight distribution will allow the bones to share the weight making sure that not any one bone takes too much weight. If the curvature is lost the weight will shift to the C5 and C6 vertebrae. The increase in load will cause these vertebrae to begin to deform and eventually collapse completely.

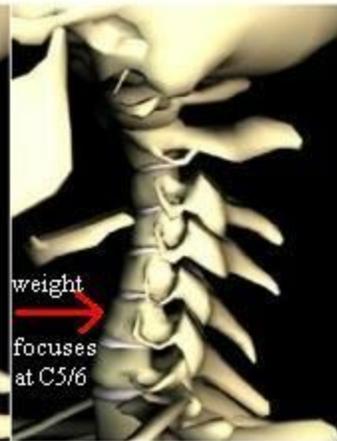
Normal curve



Abnormal curve

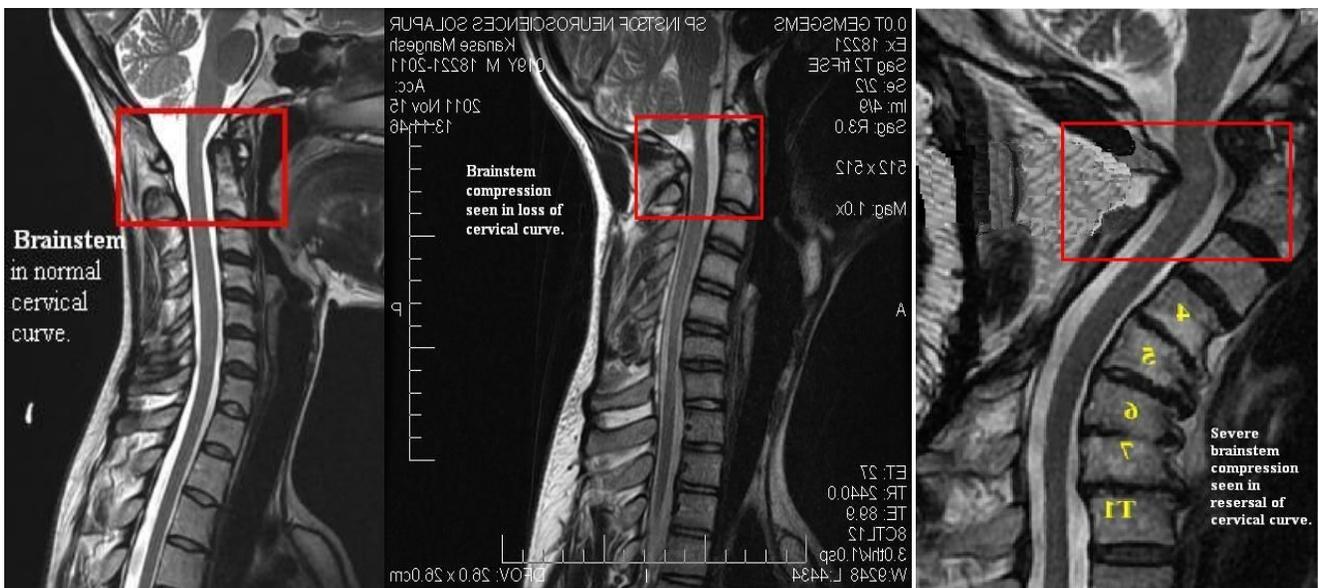


Abnormal curve

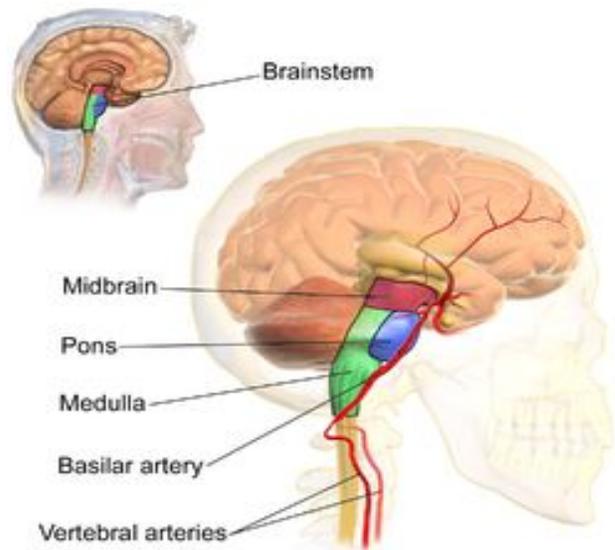
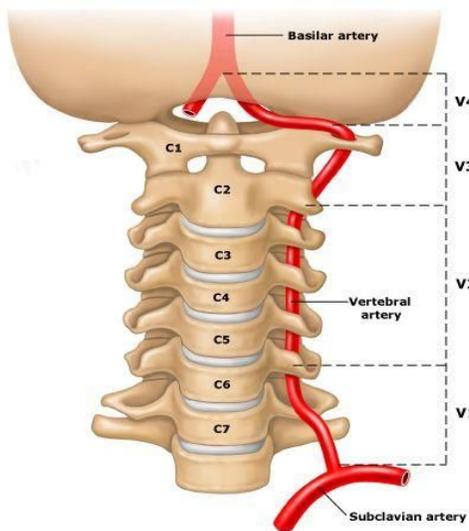


With the loss of and reversal of the cervical curve we also see a significant drop in the angle of the first cervical vertebra. The first cervical vertebra is the opening to the spinal canal. This drop of the angle at C1 causes an impingement of the brainstem as it exits the skull. This pressure being placed on the brainstem can interfere with many neuronal signals. This pressure on the brainstem can eventually lead to neuronal decay and actual damage to the brainstem itself. Your brainstem controls several vital functions to your body. When you go to sleep your brainstem keeps your heart beating and lungs breathing. It also plays a key role in balance and autonomic control of nearly all of your body's systems. This compression is the most significant factor cited in the 2005 Spine Journal research article that states loss of cervical curvature can take up to 14 years off an individual's lifespan. This compression in the elderly is also a key factor in incontinence. Your brainstem controls your body's autonomic bowel and bladder functions. If the brainstem is under enough compression the autonomic bowel and bladder sphincters do not function. This makes it incredibly difficult to control the bowel and bladder functions.

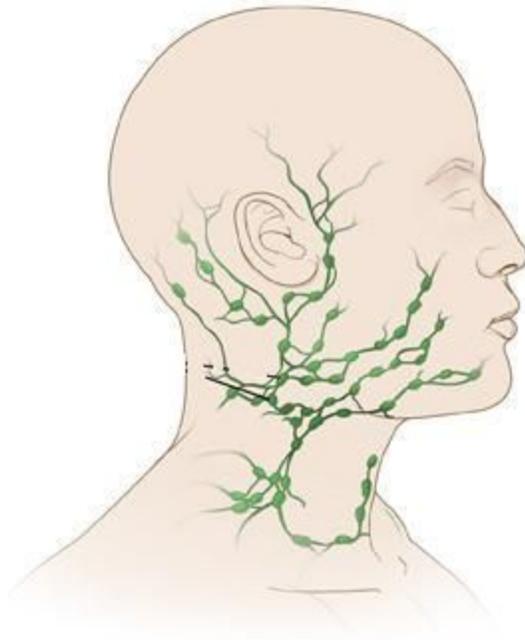
In this diagram look at the two large white bulges just below the cerebellum. The first MRI shows a healthy brainstem. In the second picture the lower of the two bulges is no longer apparent as the curve has shifted forward and C1 is causing compression on the brainstem. The third MRI shows a massive amount of compression to the posterior brainstem as the cervical curve and completely reversed and is also causing anterior collapse at C4, C5, C6, and C7. This anterior collapse is inevitable once the curvature is lost due to the exponential biomechanical load on the front of the vertebral bodies. This is why the curvature must be maintained throughout an individual's lifespan.



The cervical spine itself contains the vertebral artery. This artery actually runs inside the bones themselves. This artery supplies nearly the entire back half of your brain. If the curve is lost this artery is occluded or pinched. Research has shown that the blood flow to the back half of the brain can be decreased by nearly 30%. That is a full one third of the blood flow to the back half of the brain that is cut off.



The cervical curvature also has a huge impact on lymphatic drainage in the cranium and neck. Your lymphatic system drains away excess fluid from tissues, toxins, bacteria, viruses, and waste products. If the cervical curve is lost it can effect this drainage from your head and neck. This can cause recurring sinus infections, swollen lymph nodes, frequent throat infections, and even ear infections.



The cervical curvature can also influence the amount of airflow through the nasopharyngeal airspace. If the curve is shifted forward it will begin to pinch this space and limit the amount of airflow. Studies show this can reduce your respiratory intake by nearly 30% and can contribute to obstructive sleep apnea and a major factor in snoring.

