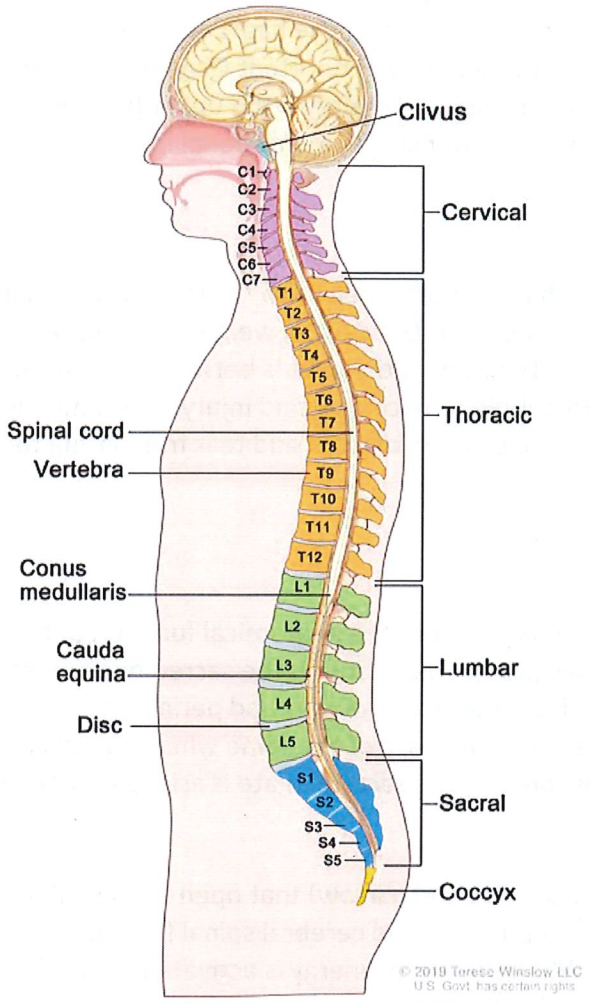

THE ANATOMY OF THE SPINE:

The Spine is made up of 33 vertebrae from top to bottom: 7 Cervical vertebrae, 12 thoracic vertebrae, 5 lumbar, 5 sacral vertebrae, 5 coccygeal vertebrae.

The spinal column is our body's central support structure. It keeps us upright, allows us to move, and connects the different parts of our skeleton to each other: the head, chest, pelvis, shoulders, arms and legs. The spine is made of 33 bones called vertebrae that link together to form the spinal column. The vertebrae are divided into five regions: cervical, thoracic, lumbar, sacrum, and coccyx. Each region has unique physical and energetic features.

Cervical (the neck)

The cervical spine is at the neck and contains seven vertebrae that are numbered C1 to C7. The main function of the cervical spine is to support the weight of your head, which is about 10 pounds! The cervical vertebrae are critical because they connect directly to the skull and brain stem. Any obstruction in this area affects the cranial nerves in the face and head. They are also the most flexible vertebrae in the spine and give us the ability to rotate our head left and right, up and down. The largest cervical vertebrae is C7. When you tilt your head forward, this is that big bone that sticks out. C7 is an important energy gate on the body to raise the Qi from the Middle Dantian through the neck to the Upper Dantian in the brain. This point often gets blocked from tension and stress through the neck.

Thoracic (the mid -back)

The thoracic spine is the mid-back and has 12 vertebrae that are numbered T1 to T12. The main function of the thoracic spine is to hold the rib cage and protect the heart and lungs. While the range of motion in the thoracic spine is limited, there are two important Qi gates at T5 and T11 that can be opened energetically to move Qi up the spine. Tension in the upper back between the shoulder blades can block these points and limit your sense of emotional freedom.

Lumbar (the lower back)

The lumbar, or lower back, has five vertebrae that are numbered L1 to L5. These are the largest and most stable vertebrae because their main function is to bear the weight of the upper body and absorb stress when one lifts heavy objects. The Ming Men point is between L2 and L3. When the Ming Men is weak, one is more susceptible to back pain and injury. A common injury is a herniated disk in the lumbar region, often due to years of wear and tear from lifting too much weight and poor posture.

Sacrum

The five sacral vertebrae fuse together to form the sacrum. The anatomical function of the sacrum is to connect the spine to the hip bones (iliac). The sacrum is the sacred bone where energy moves upwards rather than outwards from the sexual organs and perineum. Energetically, it is the largest Qi gate because it is at the base of the spine where the Qi collects (also called *Kundalini Shakti* in yoga). For most people, the sacral Qi gate is asleep or stagnant due to sitting for long periods.

Qigong movements like Teacups and Hip Circles (wide and narrow) that open the sacral pass activate the momentum stored in the sacrum to pump Qi and cerebral spinal fluid up the spine and promote youth and longevity. When the sacral energy is activated, you will feel it from within as a sensation that you have never felt before, moving in the region: it can range from a cool, water-like, peppermint feeling to a subtle electric buzzing sensation.

Coccyx region

The four coccygeal vertebrae are fused together to form the tailbone, also known as the coccyx. Physically, the coccyx is where the muscles and ligaments of the pelvic floor attach. In Chinese the coccyx is called *Wei Lu* (尾櫚) or "tail palm leaf." Energetically, Wei Lu is the base of the Du Mai. Whether we are in a standing meditation posture that activates axial extension of the spine like Wuji or moving the spine as in Spinal Cord Breathing, stretching, and sinking this point helps to initiate the flow of Qi up the Du Mai to the neck.

When all these regions are put together, a healthy adult spine has a natural S-shaped curve through the cervical, thoracic, and lumbar regions. This curve works like a wave to give you balance, absorb shock, and promote a fluid range of motion. In addition, extensor and flexor muscles are attached to the spine to stabilize the spinal cord and allow you to stand up straight, lift objects, bend forward and flex backward.

In Wuji posture and Embrace the Tree, we reduce the curve in the lumbar spine. The purpose of this is to open the Ming Men and the Kua to promote Qi flow. Someone with exaggerated lordosis may find this very difficult and uncomfortable. Everyone's spine is shaped differently: the size and shape of each vertebra vary. For some, it takes more time to adjust their posture than others and that is ok!

DISKS, LIGAMENTS AND JOINTS

Each vertebra in the spine is separated by a disc. Discs are like a jelly donut. They are made of an outer ring of fibrous bands (called the annulus) filled with a jelly-like fluid substance. The disks function like a spring that allows for mobility and protects the spinal cord. More strong fibrous bands, called ligaments, wrap around the vertebrae to hold them together and protect the discs.

The fluid jelly inside the nucleus of the disk is ruled by the Water Qi and the kidneys. With age, if the Water Qi diminishes and the Fire Qi rises, our discs lose the ability to reabsorb fluid and they become brittle and flatter; this is why we become shorter as we grow older. A herniated disk occurs when the fiber ring tears and some of this gel is pushed out. If the bulge compresses a nerve, this can cause severe back pain and muscle atrophy along the nerve route.

At night while you sleep, the fluid jelly inside the disks fills up and is pushed out during the day as you stand upright (due to gravitational pressure). This is why you are taller when you wake up in the morning: the disks are full of nourishing Water Qi. To avoid herniation, it is better to sit upright and meditate or walk around for 20 minutes first thing in the morning to let the fluid settle a bit before engaging in deep forward bends or back bends.

THE SPINAL CORD

The spinal column protects the most precious information highway in your body:
the spinal cord. The spinal cord is part of the central nervous system (CNS). It is a band of fibers about one inch (2.5 cm) wide that runs from the brainstem to the first lumbar where it branches out into a network of nerves that extend to the tips of your toes.

The CNS is the central command center that relays messages between the brain and the body. The brain sends messages through the spinal cord to the limbs, and the limbs send sensory information back to the brain. The network of nerves that communicate with the limbs is called the Peripheral Nervous System (PNS). Nerves that exit from the spinal cord are called spinal nerves. The spinal nerves connect the spinal cord to skin, joints and muscles.

Nerves that exit from the cranium are called cranial nerves. There are 12 pairs of cranial nerves. Since the brain is the origin point for the cranial nerves, these are responsible for transferring information from the brain to various sections of the body, mostly to and from the face, neck

and head, as well as the internal organs. One of the most important cranial nerves is the vagus nerve.

The quality of our senses and motor reflexes is determined by the health of the spinal cord. If any one of the spinal bones, joints or disks is compromised, the nerves in the spine can be damaged, resulting in conditions ranging from paralysis to common sciatic nerve blockage and muscle atrophy.

PRACTICE

Tonification Qigong uses gentle, repetitive movements to develop a mobile and flexible spine, promote Qi flow through the spinal cord, relax the nervous system, cleanse and charge the bones, nourish the marrow, and refine the Kidney Essence. To do this we should move the spine in all directions on a daily basis. The seven ways that we can move our spinal cord are: flexion, extension, rotation right, rotation left, lateral flexion right, lateral flexion left, and axial extension (lengthening).

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