

Valley Living

Posture, mobility, balance: keys to optimum function

By Clifford Shulman

Special To The
Black Mountain News

Posture, mobility, and balance are three keys to optimal functioning in our daily lives. Individually, they are each essential factors that influence how capable and effective we are in our tasks, whether athletic or mundane.

Therapeutically, they are important elements in an effective program whether for rehabilitation or wellness. Although each of these individual elements could be explored at length, it is in the dynamic interaction between these elements that we can understand how optimal function occurs. However, some simple definitions can be the springboard for understanding the dynamic relationship between them.

Posture provides the skeletal support and a stable base from which to engage your muscles to move you. Efficient posture entails a complex set of relationships and interactions between the skeletal system, muscular engagement, and nervous system. A truly functional posture allows one to complete whatever task you have without being overcome by gravity.

Although many people conceive posture to be a static position in which one fulfills the command to "stand up straight," it is actually a very dynamic activity that allows one to move efficiently, rather than hold a rigid position. For example, reaching into the top cabinet requires a different organization of the skeleton than bending down to pick something off the floor.

Balance is the ability to counteract gravitational forces and interact with the environment. It also is dynamic rather than static, as it requires constant communication between the brain, nervous system, joints, and vestibular system to keep one from falling. Key components involved in maintaining balance include strength, mobility, and alignment.

Also important are proprioception - the ability to sense movement in joints and the unconscious feedback mechanism between the brain and joints that helps make miniscule adjustments to maintain your body's position. Additionally, input from the vestibular system, the semicircular canals in

the inner ear, as well as vision are important components supporting our ability to maintain balance.

Mobility of your joints and tissues is vital to attain a supportive posture and provide the balance necessary to function. Several primary zones of mobility are particularly important as they allow one to efficiently distribute the weightbearing forces through the joints to provide postural support and balance. The ankle joints, which are nearest to the ground, provide the first line of defense against falling and also have profound effects on how one is able to organize and control movement up to the hips. With loss of ankle mobility, it is considerably harder to make the slight adjustments necessary to maintain balance, especially on uneven surfaces.

The pelvis (the two large bones below the waist that hold the hip sockets) is another primary zone of mobility, as it is the region that distributes the weightbearing forces of the trunk through the hip joints and into the legs. The carriage and mobility of the pelvis also strongly influences the ability to erect the trunk and sustain a good posture. The third primary zone of mobility required for good posture and balance is the spine, as it reduces compression and allows us to bend and twist.

Posture, mobility and balance are best addressed synchronistically to improve function, as the power of each enhances the other. Try this

brief exercise: Stand comfortably with feet spread hip width apart. Slowly tilt your tailbone forwards. Notice how your spine compresses and you get shorter and observe how the weight falls more towards your heels. Then tilt your tailbone backwards and see how your low back arches and you get taller; notice also how this affects where you bear weight in your feet.

Repeat this movement slowly multiple times. Then see if you can identify where neutral is, when your tailbone is neither pushed forwards or backwards. Sense where the weight is in your feet now. Is it more towards the front of the ankle? Now slowly shift your weight slightly forwards towards the toes and then backwards slightly towards the heels. Alternate back and forth until you gradually come to rest with the weight more evenly

divided between your rearfoot and forefoot. Do you feel more upright? More stable? Is it easier to rotate your trunk from this position?

Optimal function requires elements of posture, mobility, and balance which are key to maintaining a healthy lifestyle. With the right approach, they can be enhanced to support this goal.

Clifford Shulman, PT, CFP, CTP, is director of Black Mountain Physical Therapy, and treats patients with musculoskeletal, chronic pain, movement, and balance disorders. He can be reached at 669-6896 and www.blackmountainphysicaltherapy.com