

Figure 2 - Spine, Back View

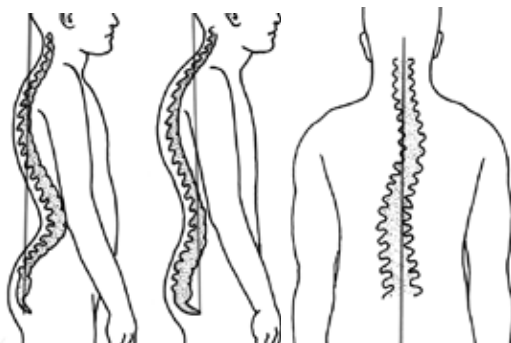


Figure 3A
Exc. Lordosis

Figure 3B
Exc. Kyphosis

Figure 3C
Scoliosis

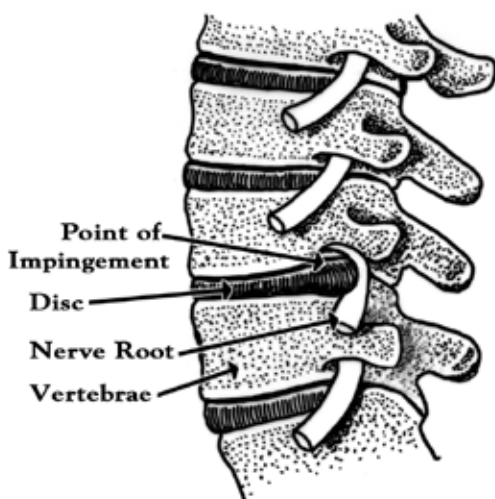


Figure 4 - Disc bulge with nerve impingement

Forming the base of the spine are the coccyx (tailbone) and the sacrum (triangular shaped structure that establishes the center of the pelvic bowl) (**figure 2**). These are fused structures that allow for little movement. The five lumbar vertebrae sit above the sacrum and together form the lumbo-sacral curve, or what we commonly refer to as the “lower back”. The health and balance of this curve is largely determined by the tone of the surrounding musculature. Continuing up the spine are the thoracic vertebrae, which connect to the rib cage; and the cervical vertebrae, which connect to the base of the skull.

The most common structural anomalies that directly impact the spine are lordosis (excessive lumbar curvature), and kyphosis (excessive upper back curvature) (**figures 3a and b**). Some people have an excessively flattened lower or upper back, and this too can be problematic. Scoliosis, or curvature of the spine (**figure 3c**) is a unique and complex variable that we will not be addressing specifically in this book. However, the practices in this program will be useful for most people with mild scoliosis. You can check with your physician or health care practitioner if you are concerned about having any of these conditions.

The intervertebral discs sit between the bony structure of the vertebrae creating a cushioning effect. In cases of spinal degeneration or herniation, the gel-like disc material either dries up or pushes out from the edge of the vertebral column and can put pressure on the spinal nerves (**figure 4**). Both of

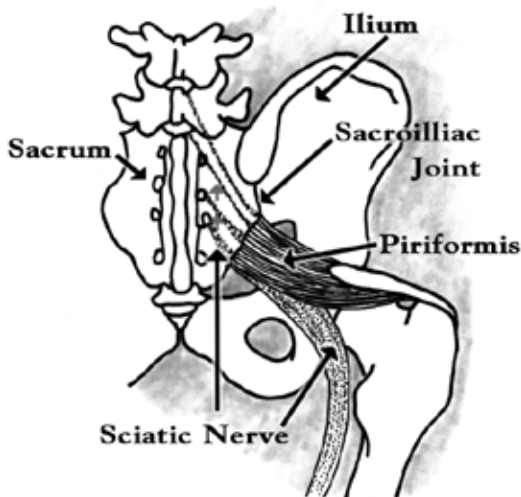


Figure 5 - Pelvis in relation to sciatic nerve
Posterior View

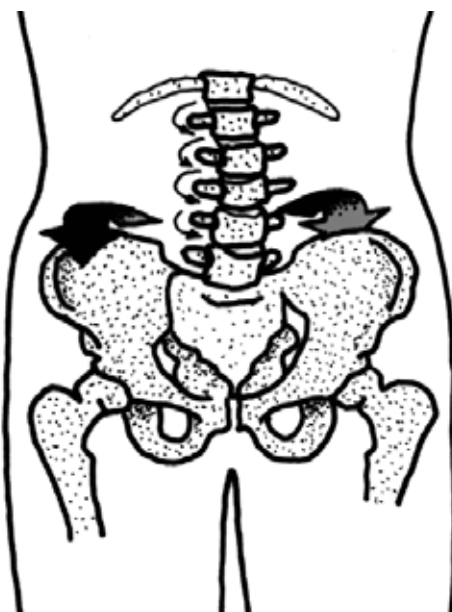


Figure 6 - Sacroiliac (SI) Joint Misalignment

these conditions can lead to varying degrees of pain and discomfort. A complex nerve plexus runs through the lumbo-sacral area (*particularly the sciatic nerve and it's off shoots*) (figure 5). This makes it difficult to pin-point the exact source of pain in this region and to determine a specific diagnosis. Symptoms can be alleviated by releasing pressure on the nerves through proper postural alignment and re-organization of the spinal musculature through conscious movement like yoga.

Where the sacrum and the ilium (pelvic bones) meet, they form the sacro-iliac (SI) joint (figure 5). This joint, unlike most joints in the body is not intended to move the body. Instead, its primary function is stabilization. Excessive torsion or rotation of the SI joint can sprain the ligaments that hold the bones in place (figure 6). A sprained SI joint becomes inflamed, swollen, and sore in much the way a sprained ankle does. Unfortunately, it's hard to put a splint on the pelvis to immobilize it so it can heal. Every twist, turn, rotation, and flexion of the spine can possibly re-inflate the area. Repetitive injury to this region can permanently overstretch the SI ligaments and destabilize the pelvis. In this case, building and maintaining strength in the musculature that surrounds the sacrum is a critical part of the healing process and a primary focus for our work in therapeutic yoga.

All of the bony structures of the spine are held in place by soft tissue: muscles, tendons, ligaments, and fascia. Tendons attach muscle to muscle and muscle to bone. Ligaments attach bone to bone. Both tendons and ligaments are more fibrous (thicker) and have less blood circulating through them than muscles. This is why it's harder to heal tendon and ligament damage than injured muscle.



by blocking the lung's ability to expand fully. This sets up an internal message loop that our system is under duress. When the body and mind are receiving stress messages, everything contracts. Chronic subliminal contractions (the kind we do unconsciously) often lead to pain. If you carry tension in your neck, this could lead to headaches. If you carry stress in your back, this could create back pain.

The good news is that by developing healthier breathing habits we can reduce or even eliminate this pattern of chronically held tension. The breath provides a perfect conduit for the re-patterning process mentioned earlier. Since we're all habituated to breathe in a particular way (multiplied by X number of breaths per minute, multiplied by the hours, days, and years of our lives), our breath is a virtual playground for us to practice creating healing opportunities. You'll find that each of the practices in **The Essential Low Back Program** begins and ends with deep yoga breathing and that all the movements are coordinated with the breath. The emphasis on the breath is intentional to teach you a powerful tool for calming your own nervous system and unwinding yourself out of pain.

THE ABC'S OF YOGA POSTURE

There are five directions in which the spine can move: **Spinal Extension, Forward Bending, Back Bending, Lateral Bending** and **Twisting**. Ideally, we experience a sense of freedom without discomfort in all of them.

The first direction is **Spinal Extension**, which is an upward, intervertebral lift, moving us out of our habitual slump into what's commonly known as "good posture." In yoga terms, we call this **Mountain Pose (photos 3 and 4)**, and it is considered the basis for all other yoga postures. **Mountain Pose** requires lots of support from the intrinsic muscles as well as a keen awareness of how we hold our body upright in space. Developing the capacity to sustain a Mountain Pose awareness throughout our daily life takes practice and constant reinforcement (figure 22).



Photo 3 - Mountain Pose
Sitting



Photo 4 - Mountain Pose
Standing

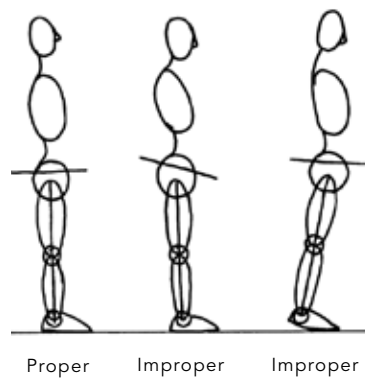


Figure 22 - Alignment of Mountain
Pose



Photo 5 - Symmetrical Forward Bend



Photo 7 - Assymetrical Forward Bend

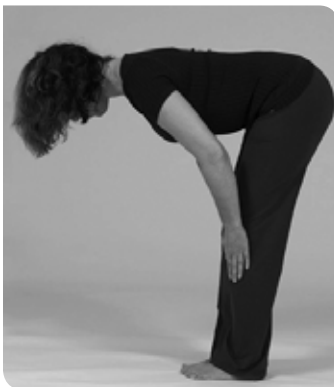


Photo 8 - Forward Bend with Mountain Pose Extension



Photo 9 - Bridge Pose, Back Bending

The second direction of movement is Forward Bending, which stretches the back of the body. **Forward Bends** can be done standing (photo 5), kneeling (photo 6), sitting, or lying on the back.

They can be symmetrical or asymmetrical (photo 7). However, the primary intention of the forward bend movement is to stretch the back, which requires forward flexion or rotation of the pelvic girdle. Most of our lives are spent in this kind of forward flexion, whether we're sitting at a computer table, driving in our car, or slumped on the couch, watching TV (figure 23). Our typical, unconscious seated posture doesn't provide much positive stretch or active support for the back. Most forward bends in the world of yoga require a **Mountain Pose** awareness of spinal extension in order to achieve their full benefit (photo 8).



Photo 6 - Kneeling Forward Bend



Figure 23 - Typical Seated Slump

The third direction is **Back Bending** (figure 24), which requires hyper-extension (beyond Mountain Pose extension) of the spine and stretches the front of the body. Unlike **Extension** and **Forward Bending**, most of us do not engage in back bending movements unless we attend a yoga or dance class, or are involved in

a physical therapy program. Because we spend so much time forward bending (unconsciously), back bends provide the body with an antidote, creating more length along the front of the body (photo 9).



Figure 24 - Hyper-Extension / Back Bending



Photo 10 - Cobra Pose with Leg Lifts,
Back Bending

If done correctly, back bending will also strengthen the back of the body (**photo 10**), rectifying weakened and underdeveloped muscles that our sedentary lifestyle tends to promote.

Forward and backward rotation of the pelvis are the two primary ways the pelvic girdle is intended to move. Ease of movement in the pelvis is key to lumbo-sacral health. The **Essential Low Back Program** provides lots of experiential practice of these two movement with each and every repetition of the **Wheel Pose**. Coming to understand this movement in your own body will greatly aid your healing process (**photos 11 and 12**).



Photo 11 - Forward Rotation with Spinal
Extension (Back Bend)



Photo 12 - Backward Rotation with
Spinal Flexion (Forward Bend)

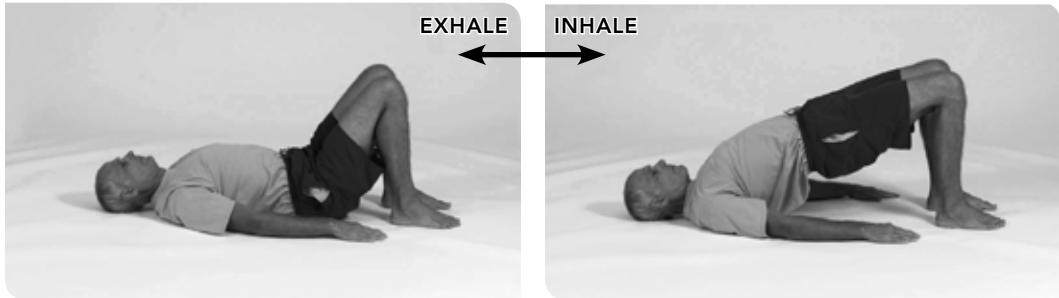


Photo 13 - Lateral Bend

The fourth direction is **Lateral Bending (photo 13)**, which opens up the sides of the body and stretches into the shoulders, upper back and arms. When the sides are tight, they create undue stress that can pull us out of alignment. Learning to stretch into the sides of the body is an important part of any good yoga program. **Side Bends** help to stretch the intercostal muscles of the ribs and greatly aid in the development of respiratory capacity. The challenge in sidebending is to avoid torsion or twisting in the pelvis, by actively engaging the lower abdominals and stabilizing the lumbo-sacral area.

BRIDGE POSE

Lie on your back with your knees bent and your feet hip-width apart, about 6–8 inches from your sit bones. Arms are relaxed by your side, and your head rests on the floor without any support. Inhale, press firmly down into your feet, lift your hips, and stretch into the front of your body. As you exhale, draw your belly in and curl your spine down, one vertebra at a time. Repeat 6 times.

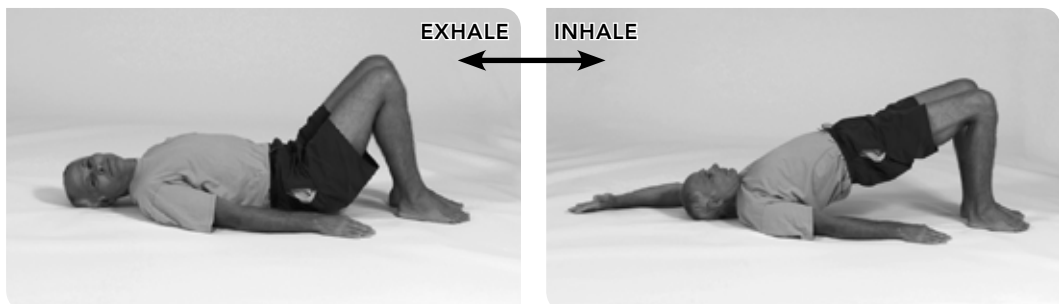


Bridge Pose

BRIDGE POSE –

ALTERNATE ARM VARIATION / NECK AND SHOULDER RELEASE

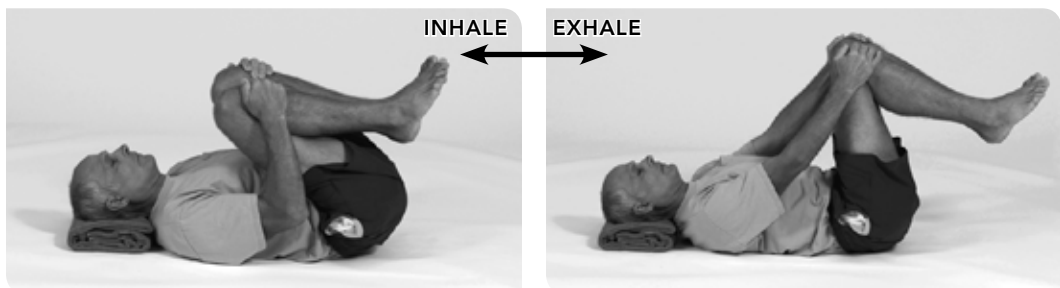
Inhale, as you lift up into the Bridge Pose, raise your right arm and stretch it overhead to the floor behind you. As you exhale, bring your right arm down while turning your head to the left and curling your spine down to the resting position. As you inhale the next time, raise your left arm, turn head to center, and lift up. Exhale and bring your left arm down while turning your head to the right and curling your spine down to the resting position. Continue to alternate in this way until you've completed 3 cycles on each side.



Bridge Pose Variation

KNEE TO CHEST POSE – TWO LEGS

Lie on your back and place a blanket under head and neck if needed. Draw both knees up until you can place one hand on each knee. Exhale, folding your knees into your chest, stretching your lower back. As you inhale, release your knees back until they are an arm's length away from you (feet stay off the floor). Repeat 3 times. Exhale, and divide the breath into two equal parts. Bring your knees in halfway as you release half the breath. Pause. Then continue to draw your knees in and press out the rest of your breath. Repeat this 2-part variation 3 times.



Knee To Chest Pose

RELAXATION

Lie down comfortably as you did in the beginning resting position. Place blanket under head and neck if needed. Place the bolster or chair under your knees, so your lower back can relax in a neutral position. Evenly spread your body across the floor. Let the whole body rest. Relax the breath, keeping the mind focused on the movement of the breath and the gentle release of muscular tension. Remain in this position for 3–5 minutes.



Relaxation and Lying Pranayama

WARRIOR POSE – LAT-BAR PULL VARIATION

As you inhale, bend your front knee into the lunge position only far enough to bring your front knee directly over your front heel, and reach your arms forward and up, extending your spine. As you exhale, maintain the lunge position and bend your elbows, engaging your upper back postural muscles, pressing your chest forward. As you take this strong position in your upper body, engage your abdominals to stabilize and support your lower back. Keep your shoulders slightly forward of your hips, with your trunk at a diagonal to avoid over-arching your lower back. Repeat the lat-bar pull movement in your arms 3 times, maintaining the lunge position in your legs. Then as you inhale, straighten your front leg and extend your arms forward and up, and as you exhale, press your arms down to bring your feet together. Pause in **Mountain Pose** and then repeat the **Warrior** sequence on your other side. Return to **Mountain Pose**. Pause and feel the effect of the posture.

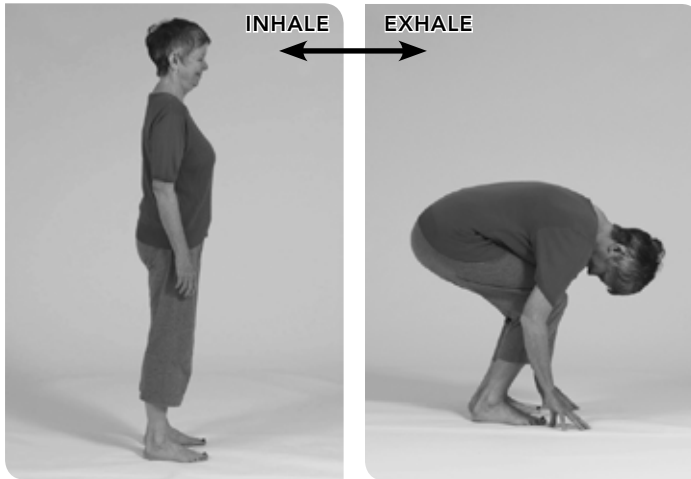


Warrior Lat-Bar Pull Variation

Mountain Pose

CHAIR POSE

Begin in **Standing Mountain Pose**. As you exhale, come into a half-squat, bending your knees. Bring your buttocks back and your thighs closer to parallel with the floor. Fold forward, rotating in your hips, bringing your chest to your thighs. Your arms are relaxed toward the floor. Pause. As you inhale, press into your legs, and then leading with your chest, roll your shoulders back and come up fully into **Standing Mountain Pose**. Your arms remain relaxed, hands sliding up the legs. Repeat the movement with progressively longer exhalations: use a



Mountain Pose / Chair Pose

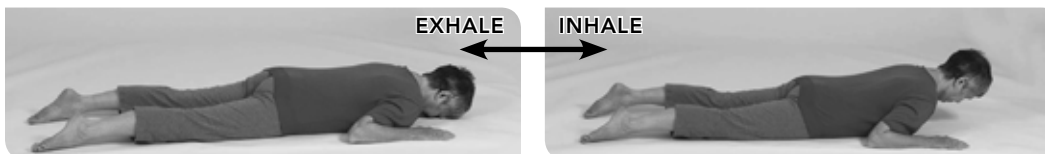
Chair Pose

4-count exhalation for 2 repetitions, a 6-count exhalation for 2 repetitions, and an 8-count exhalation for 2 repetitions.

When finished, stand in **Mountain Pose** for a few breaths and feel the effect of the posture.

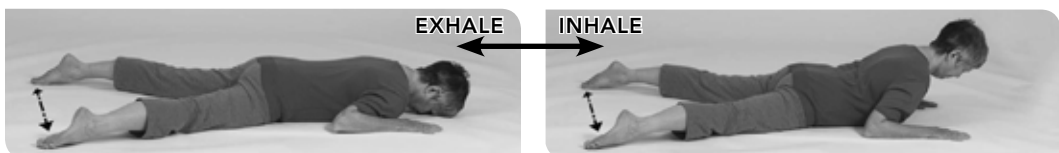
COBRA POSE – WIDENING LEG VARIATION

Lie on your belly with hands resting palms down just outside your shoulders, forearms on the floor, elbows by your ribs. Begin with your feet hip-width apart. Let your feet stretch back, tops of the feet on the floor. Inhale, traction back gently with your arms, and lift your chest maintaining a sense of length in the spine. Keep your chin slightly tucked and the back of your neck long. Pause. Exhale and release your chest to the floor. Repeat this 2 times. Then widen the spread of your legs about 6 inches and repeat the same cobra lift 2 times. Progressively widen your legs twice more, 6 inches at a time, lifting up into **Cobra** 2 times in each position.



(a) Cobra Pose - Rest On Floor

Lift Chest



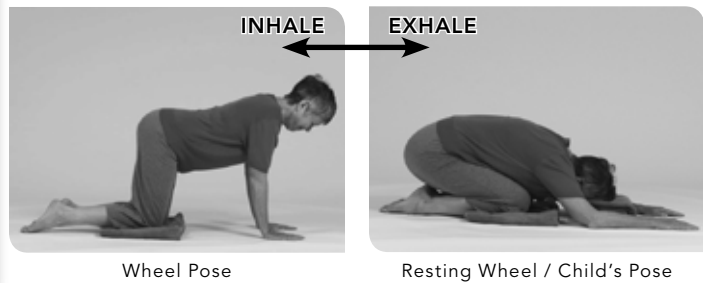
(b) Cobra Pose - Progressively Widen Legs

Lift Chest

WHEEL POSE – PROGRESSIVE EXHALE

Come onto your hands and knees and place a blanket under your knees for support. Position your hands shoulder-width apart, directly below your shoulders, and place your knees hip-distance apart, directly below your hips. With your inhalation, lift your tailbone and head and extend your chest forward. As you exhale, engage your belly and stretch your hips back to your heels, counting your exhalation in one second intervals for 4 counts. Repeat. Lengthen your exhalation to 6 counts and repeat the movement for 2 breath cycles. Then lengthen your exhalation to 8 counts and repeat the movement again for two breath cycles. Rest in **Child's Pose**.

If you have a knee condition that prohibits you from kneeling, please do the **Seated Chair Variation**. For a full description of **Seated Wheel** or **Seated Child's Pose**, see p. 81.



EXTENDED LEG POSE

Come onto your back, supporting your head and neck with a blanket if needed. Bend your knees and place your feet on the floor. Settle into your breath, release any excess tension. Bring your right knee into your chest and place your hands just below the back of your right knee. With your inhalation, extend your right heel up towards the ceiling, straightening your right leg as much as you are able. As you exhale, bend your knee and draw your thigh into your chest. Repeat 4 times. Then hold your leg in the extended position and slowly circle your ankle 4–6 times in each direction. Keep your breath flowing naturally as you rotate your ankle. When you're finished, fold your knee into your chest as you exhale and then bring your foot to the floor. Pause and feel the effect of the posture. Repeat the sequence with your left leg.

