HOW TO BREATHE

How to breathe?  Who needs instruction in something so basic?  Inhale.  Exhale.  Repeat.  Right?

If your diaphragm isn’t working properly, muscles in the neck and upper ribcage (both in front and in back) are forced to work overtime and ultimately become the source of neck, upper back and upper chest pain.  In addition, the diaphragm is an important component of the Core and thus is involved in protecting the lower back from injury.

TO ANALYZE YOUR BREATHING:  Place one hand over your chest, the other over your stomach.  Inhale deeply.  If your stomach expands more than your chest, your breathing pattern is correct.  If your chest expands more than your stomach, your diaphragm is “asleep” and you need to wake it up.

After checking your breathing pattern if you decide you’re definitely a “chest breather”, follow the corrective exercises below.

1.  You can inhale and exhale through your nose or inhale through the nose and exhale through pursed lips.
2.  Remember not to hold your breath.
3.  Be sure your stomach stays relaxed.  Let it expand as you inhale and retract as you exhale.  The belly is the foundation of proper breathing.
4.  A long, slow exhalation helps harmonize your diaphragm and turns on your “relaxation response” (see below).
5.  Encourage a natural pause after exhalation.
6.  Let inhalation start by itself when it’s ready.

Practice three times a day.  Convenient times are when you are lying on a supportive neck pillow or simply when you are out walking. Five breath cycles a day will soon get the correct pattern up and running again.  Correct breathing technique is the cornerstone of more advanced injury avoidance and postural corrective exercises.
AFTER YOU'VE LEARNED TO BREATHE CORRECTLY you can explore the following to help reduce pain, create a calming effect and stimulate a healing response by activating the VAGUS NERVE...

- **7-11 Breathing**  Breathe in for a count of 7 and out for a count of 11. Make sure the belly expands on inhalation.  The key is to slow the breathing rate and exhale longer than inhale.  Repeat as needed.

- **4-7-8 Breathing**  Belly breathe in for a count of 4, hold your breath for a count of 7, then exhale for a count of 8.  Repeat as needed.

- **The Dive Reflex**  Place an ice pack on your face from scalp to upper lip and hold a sip of water in your mouth.  7-11 or 4-7-8 Breathe for a few minutes.  Expect reduced pain and a sense of well-being for 30 to 90 minutes.  Repeat as needed.

Combining heat or cold application, a comfortable decompressive position and gentle spinal mobilization maneuvers and the Vagus nerve activation techniques is a safe and effective way to reduce pain when it’s most intense.

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Save your breath

By Mandy Oaklander

Research is mounting that a natural, potent source of stress relief is right in front of your nose. New science is showing that slowing down and deepening your breathing can have profound effects on well-being. "Many researchers can’t imagine how something so simple could actually have effects on physiology," says Dr. Andrew Weil, a physician and founder of the Arizona Center for Integrative Medicine at the University of Arizona. Breathing exercises—a staple of mindfulness and yoga practices—have been shown to help control blood pressure, improve heart rate, make arteries more flexible and activate the parasympathetic nervous system, which tamps down the body’s fight-or-flight response to stress. Well and other experts now believe deep breathing has a place in a clinical setting.

"It’s enough to warrant applications in several areas of medicine," says Dr. Luciano Bernardi, an internal medicine professor whose research shows that slow-breathing exercises improve exercise capacity in patients with chronic heart failure. "We’ve shown that this simple thing has a fantastic series of effects."

Verbatim

"I think breath is the only function through which you can influence the involuntary nervous system."

—DR. ANDREW WEIL

Try it yourself

1. Sit in a position that is comfortable enough to sustain for a few minutes of alternate-nose breathing. (Sitting in a chair is just fine.) This is one of many breathing exercises shown to have some health benefits (see right).

2. Make a "hang 10" sign with your right hand. Hold your right thumb over your right nostril to plug it closed. Inhale slowly through the left nostril until your lungs are full. Hold for four seconds.

3. Release the right nostril and plug the left with a pinkie. Slowly exhale. Once you’ve exhaled fully, inhale through the right nostril to repeat on the other side. Do about four rounds on each side—or more if you have time.

The benefits of breathing exercises

Slow breathing activates areas in the brain connected with antidepressive activities, says Dr. Luciano Bernardi of the University of Pavia in Italy.

When people with insomnia practiced slow, even breathing for 20 minutes before going to sleep, they woke up fewer times during the night.

Studies have shown that people who practiced alternate-nose breathing for 10 minutes significantly reduced their blood pressure.

Breathing slowly helps you take in more oxygen. In one study, brief breathing exercises done several times each day increased oxygen consumption by 37%.

In a 2015 randomized controlled trial, healthy women who did eight weeks of twice-weekly yoga with breathing exercises significantly reduced anxiety (but not the control group.)

In one small recent study, slow-breathing sessions for 30 minutes a day reduced blood pressure in people with hypertension—and the effect persisted a month later.

Sources: Psychophysiology, Medical Science Monitor, Indian Journal of Physiology and Pharmacology, Journal of Alternative and Complementary Medicine, Clinical Autonomic Research, Dr. Patricia Gerbarg
CORE VALUES

The Core is the cylindrical muscle system that protects the spine from injury. It’s like a big tin can with a top (diaphragm), bottom (the “Kegel” muscle) and the deep abdominal and spinal muscles forming the circular part connecting the two.

It’s important because a big part of back injury prevention is activating the Core BEFORE engaging in activities that place the spine at risk.

Activating the core first requires **diaphragmatic breathing** (expanding the abdomen on inhalation). See our “How to Breathe” handout.

Activating the rest of the core is different for men and women.

- **For Women:** Pull belly button inward and tighten the Kegel muscle with approximately 10% of total power (as if someone were poking or tickling you). Make sure the abdomen expands on breathing in.

  BONUS: less bladder leakage.

- **For Men:** Continuous Kegel tensioning can interfere with men’s urinary flow (especially in middle age and older individuals) so they should relax the abdomen and Kegel on inhalation then squeeze both abdomen and Kegel when breathing out.

  BONUS: this acts as an external prostatic massage and over time may enhance the gland’s function and reduce benign hypertrophy. Women can provide benefit to their pelvic organs through this breath-assisted rhythmic Kegel tensioning and relaxation.

Our **B.A.M.** (Balance-Alignment-Movement) posture improvement exercise protocol trains automatic Core activation before engaging in routine daily activities that risk spinal injury such as lifting objects or getting out of a car. Result? Less repetitive microtear injury and fewer painful flares.

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SAFE STANDING

CHIN TUCK means tilting the head downward with the head rocking down on the neck.

RELAXED HEAD RETRACTION means the Full Head Retraction (see handout) and then relaxing just enough to lessen the tension in the upper neck.

HELIUM HEAD means imagining your head so full of helium that it wants to float straight upward. Another way is to picture a light weight (such as a folded towel) on top of your head that you raise up. Generations ago young women were taught to balance AND elevate a book on their heads in “Charm School”. Their spines were lengthened and thought to be better looking and (coincidentally?) less injury prone.

Two more strategies to help you SafeStand…

THE SHOULDER ROLL
- Move one shoulder forward
- Then move it up toward the ear
- Then roll shoulder back and slide it downward along the spine

Repeat with the other shoulder. Don’t over exaggerate! If it feels awkward you’re probably overdoing each motion.

THE ELBOW MOVE means bringing each elbow a little closer to the other so that thumbs (and not backs of hands) point forward. This is a good tip to use while walking.

As you transition away from the Chin Poke/Forward Head/Slumped Upper Back/Slouched Lower Back habit toward a healthier (straighter and longer) neck/mid back and gently arched lower back you may find eyestrain a problem due to the Relaxed Chin Tuck causes you to use different eye muscles but they will soon adapt.

Eyeglass wearers (especially bifocals) might need to have their glasses adjusted because their new and improved posture causes them to look through a different part of their lenses.

BE PATIENT! Changing life-long posture takes time. When you catch yourself slipping into old habits just return to the new form. It will soon become automatic for you.

For further information, read 8 Steps To A Pain Free Back by Esther Gokhale
LOWER BACK (AND FOOT, KNEE AND HIP) INJURY AVOIDANCE

SAFEWALKING

REVIEW: So far we’ve pointed out the value of a gentle lower back arch in reducing the risk of injury (Helium Head and Relaxed Head Retraction). This addresses ideal posture when we’re not moving, whether it’s standing, sitting or laying down (Safe Standing, Safe Sitting and Safe Lying).

Next is the Safe Bending (Hip Hinging) maneuver which allows us to maintain the protective arch while moving and is especially important in sit-to-stand transitions and when lifting.

As we’ve seen, modern industrial living has led us to doing simple things like sitting, standing and lifting incorrectly and has significantly contributed to higher incidences of mechanical pain (not just spinal), disc damage and osteoarthritis. This is also true about the way we walk.

Fitness experts correctly advise as many as 10,000 steps a day for general Wellness but what if each step is a mini injury? This is what many of us do with every step...

- Walk with a series of forward falls abruptly blocked by the forward leg
- Underuse gluteal, leg and foot muscles
- Twist, hunch or sway with each step

This is an assault to every weight bearing joint in the body. How much foot, knee, hip and lower back injury can be attributed to the way we walk? How much better would you feel if you reduced (even a little bit) this chronic, recurring stress? When was the last time you even thought about how you walk?

Before improving your walking technique remember that it took each of us about a year to learn how the first time (and we didn’t have any bad habits to unlearn!). BE PATIENT WITH YOURSELF. The injury avoidance principles we’ve discussed are a lifetime project—so you have plenty of time! Below are a few basic guidelines. Pick a few and start relearning to walk.

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• Remember to adopt the Helium Head/Relaxed Head Retraction posture with shoulder blades down and in (pointing thumbs forward helps).
• Walking is a great time to Core Brace. Relax Abs and Kegel when breathing in and tighten the Abs and Kegel when breathing out. A little extra squeeze on exhalation gives you a nice Ab workout on every breath.

Once you’re underway phase in a few of the following ideas:

• Heel gently touches down just before the rest of the foot. This requires the knee to be slightly bent and reduces stress here and at the hip.
• Keep heel on ground as other leg swings through. Then show someone following you the whole bottom of the foot as you push off.
• As the leg swings through, let the ball separate just a little from the socket of the hip joint.
• “Walk the Line”—Imagine a line on the ground that separates the right and left foot but only by a little bit i.e. the feet are not too far apart. Toes point outward a little.

You can check for correct gluteal (buttock) muscle activation by feeling for them to tighten when the heel touches down. (it may be better to do this when no one’s looking!). With Safe Walking the buttock muscles will be working harder so they may be a little sore at first. On the other hand, over time they will get firmer and higher!

As your walking style transitions from a series of forward falls to a series of controlled forward propulsions your tread will become lighter and walking will be more graceful, smoother and calmer. You will gradually strengthen buttock, leg and foot muscles and (with brisk walking) your Core Brace.

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SAFE SITTING

Almost everyone sits for long periods of time, either at work or at home watching TV, reading, playing video games or using computers. Prolonged sitting puts the spine at risk for injury or reinjury for many reasons.

Additionally, for at least 100 years, seats and chairs have been designed with features that increase the risk of injury. They’re too low and the sitting surfaces slant backward too much. This forces the spine into a position that guarantees stress and (eventually) injury. The pelvis is tilted backward (it should tilt forward), the lower back is flattened (it should be arched), the upper back and shoulders are excessively rounded and it’s hard not to adopt a stressful head forward/chin poke posture. Simply sitting in a modern chair qualifies as repetitive stress injury!

Modern chairs make getting into and out of the seated position safely much more difficult as well. How many times do you think you move from sit-to-stand or stand-to-sit each day? What if each time it amounts to a mini-injury? See our Hip Hinge/Safe Bending handout sheet.

Until chairs and seats are designed better you’ll need to improvise improvements on your own if you want to minimize the risk of using them. See our Features of an Ideal Chair handout. The following suggestions are adaptable to sitting at home, work and in your car.

- The easiest solution is simply to sit on the front edge of the seat and (if necessary) tuck your legs under the chair. This will angle the thighs and pelvis downward, allowing a low-effort “stack sitting” posture.

- The next easiest strategy is to add lumbar support. A small pillow or folded towel placed behind you just above the waist is often at least partially helpful. Many car seats and office chairs already have this feature and it’s better than nothing. Experiment with size and position. This does not, however, address two main seat flaws (height and sitting surface angle).

- In order to improve your sitting more effectively you may need to raise the chair. How much depends on your and the chair or seat’s height. Car seats and office chairs may have a degree of adjustability built in. As stated above, ideally your thighs will angle downward. This encourages a forward pelvic tilt and arch in the lower back.
• A wedge-shaped support is often necessary to compensate for the backward slant of the sitting surface. This will tilt the pelvis forward and raise the seat height. Try folding a large towel into a triangle or stacking two pillows and positioning them so you get both proper height and pelvic tilt.

These adaptations are more important for chairs and seats that you use for long periods. It’s probably not practical to haul 2 pillows with you to visit friends or family but it might be worth the trouble to improve chairs at home, work or car that you use for hours at a time.

Once you have the chair set up optimally you can work on improving your injury-avoidance sitting technique by using the “Helium Head and Relaxed Head Retraction” (SafeStanding) concept.

These will put you closer to your desk and computer and may require changes to your work station. The top edge of computer monitors and televisions should be at eye level. You may find that your glasses (especially bifocals) now need to be changed because your eyes now look through a different part of your lenses. Work with your eyewear professional.

Each person will have to determine just how many of these changes are necessary for them. A person with severe pain with unavoidable sitting requirements will get more benefit than someone with only an occasional problem. Remember that ultimately the best chair is the one you can get out of frequently (especially if you know how to sit-to-stand correctly!)

For further information, see 8 Steps to a Pain-Free Back by Esther Gokhale or visit www.cgwellness.com

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FEATURES OF AN IDEAL CHAIR

• **Comfortable downslope**

Sitting at the front of a chair helps but for prolonged Safe Sitting a downward-angled “waterfall” edge will let you angle the pelvis forward without using a wedge-shaped pillow.

• **Convex seat**

A rounded top allows the legs to externally rotate and makes it easier to tilt the pelvis forward. A saggy or bowl-shaped seat, however, forces the legs to internally rotate making the forward pelvic tilt more difficult (especially if the seat is made of mesh or fabric). A forward-tilted pelvis (belt buckle lower) is essential to stack the vertebrae and allow Safe Sitting.

• **Shoulder clearance**

The shoulders can roll back only if there’s room for them. Chair backs should thus be lower than the shoulder blades or have recessed cutouts for them.

• **Adjustable height**

Depending on your height, you’ll want a chair that allows feet to be flat (and kidney-bean shaped) on the floor and high enough for you to tilt the pelvis forward.

• **Allowance to get close to your work**

Getting close to work is necessary to maintain proper shoulder position. Arm rests may prevent this depending on the height of the work surface.

The **Gokhale Pain Free Chair** provides healthy clearance for shoulders, no arms, a waterfall edge, convex seat and height adjustment. Visit [info@gokhalemethod.com](mailto:info@gokhalemethod.com) for more information.

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SAFE BENDING

THE HIP HINGE

The Hip Hinge action allows us to maintain the desirable gentle lower back arch first discussed with the Safe Standing (Chin Tuck+Relaxed Head Retraction+Shoulder or Elbow Move) concept when we’re moving. It is especially helpful when transitioning from sitting to standing and when lifting heavy objects. As the name implies, Hip Hinging is done with movement at the hip joints, not the lower back. We will demonstrate this move to you personally and utilize photos and diagrams to cement the concept in your rehab sessions.

Depending on hamstring flexibility, the knees can remain straight or bend as needed. With repetition, Hip Hinging, if done with a little extra stretch to the hamstrings, will gradually improve flexibility and thus require less and less knee bending. This addresses a challenging conflict—avoiding back stress often causes knee strain.

Regular Hip Hinging also strengthens the entire spinal musculature...it is much more effective (and easier) to intermittently exercise all day long than to remember to engage in a specific exercise program for a few minutes each day.

Pay special attention to Hip Hinging while transitioning from sit-to-stand and stand-to-sit. Sitting places a lot of pressure on the lower back discs and when combined with loss of the lumbar arch a recipe for injury emerges. Conscious Hip Hinge practice when using the toilet will not only help you learn the motion but addresses the number one reason for nursing home admission (inability to use the bathroom without assistance).

More advanced application of Hinge Hinging involves applying the concept to weight lifting exercises such as the Squat and Deadlift. When done correctly these will improve strength in the entire body but can reinjure quickly when done wrong (with back bent forward). The sit to stand transition is essentially a Squat movement and much daily lifting involves Deadlifting so these exercises have significant real-world application.
The hip hinge

Craig Liebenson

Everyone has heard that if you have a bad back you should lift with your leg NOT your back. But, what does this really mean? It means that you should bend or 'hinge' your hips and knees instead of your waist or spine when you lift. This same advice can be extended to activities such as rising from a chair, getting in or out of your car, up and down from bed, washing your face, etc. The best way to protect your back is to hinge with your hips instead of your back, especially early in the morning or when performing an arduous task such as lifting an object.

What is the hip hinge?

Fig. 1 shows a person squatting down while bending or hinging mostly from the waist. This is potentially harmful for the back in the morning or if the person was lifting something. Fig. 2 shows the same person squatting down while hinging mostly from the hips. This protects the back, and is especially important if the person has acute low back pain or sciatica.

Rising from a chair (Fig 3):
- sit at the edge of a chair
- lift your breastbone up toward your chin
- stand up keeping your chest lifted
- it is alright for your shoulders to move forward of your hips, but be sure to maintain a forward 'C' shape of your spine (Fig. 4).

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Fig. 3 (A) Correct — rising from a chair by protecting the back with the hip hinge. (B) Incorrect — rising from a chair without the back protected due to slumping forward.

Note: If this exercise feels uncomfortable then begin with a higher surface such as:

- Chair or couches arm rest
- Bar stool

Fig. 4 Using a higher surface to initiate training of the hip hinge.

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LOWER BACK INJURY AVOIDANCE

SAFE LYING

The main feature in avoiding lower back injury when lying down is the same as with all other positions or movements: **the lower back is happiest when gently arched**. This is most important with prolonged sitting and lifting but not irrelevant when lying down. This is especially true when patients report waking up at night or first thing in the morning with lower back related pain. If you sleep well and feel good in the morning this information is probably not necessary for you!

MATTRESS/PILLOW CONSIDERATIONS: It’s probably an oversimplification to simply say “the firmer the better”. As discussed above, if you’re sleeping well and your back feels good in the morning your mattress is fine. If not, consider the following:

- Because women’s hips are usually wider than their waists, painful pressure on the side of the hips when side-sleeping is common. A pillow top or other padded surface such as Memory Foam may help here. A pillow under the waist might help too.

- **Side sleepers** may also be able to reduce pressure point pain with a pillow placed between the knees, or if the side-sleep position involves a straight lower leg and bent upper knee, a pillow under the upper knee. “Body pillows” can be more practical than propping up with 2 or even 3 extra pillows.

- **Back sleepers** may do better with a pillow under the knees. Alternatively, a small pillow under the back may be better.

- **Stomach sleepers** can reduce an excessive lower back arch with a pillow under the abdomen.

- In our experience the firmness adjustability of **Air Mattresses** has proven beneficial for many patients. These are especially helpful for couples who have different mattress firmness preferences.
STRETCHING: By using the arms to lengthen the spine in your preferred sleep position you may be able to reduce pain, toss and turn less and sleep more soundly. These methods are best learned “in person” and we’ll demonstrate them to you but the following provides a general outline of technique.

- **Stretching on Side** Before fully laying down, prop up on the lower elbow and lever yourself toward the head of the bed. You can help with the upper arm. If pain at night or in the morning is a problem pay special attention assuming the gentle lower back arch.

- **Stretching on Back** Prop up on both elbows before fully laying down and (as above) lever the upper body up toward the head of the bed.

- **Stretching on Stomach** Stomach sleeping is notorious for contributing to both lower back and neck related injuries. Efforts to stop sleeping face down, while challenging, are well worth it. If you can’t avoid this posture, using the elbows as a fulcrum to stretch toward the head of the bed may help.

In each position, don’t forget to utilize whatever extra pillow(s) that have proven to help such as between knees (side sleeping), below knees or back (back sleeping) or under abdomen (stomach sleeping). This may be more trouble than you want to go to BUT if sleep posture is a significant factor in repetitive reinjury it may be worth it!

See [8 Steps to a Pain-Free Back](#) by Esther Gokhale or visit [www.egwellness.com](http://www.egwellness.com)

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NECK AND UPPER BACK INJURY AVOIDANCE

SAFE LYING

Sleep posture and pillow shape concepts for neck and upper back injury avoidance are an application of the Rule of the Neck. The goal is to sleep as much as possible with the neck in a neutral position.

RULE OF THE NECK: the neck and upper back get injured when extreme positions for long periods of time are adopted.

SIDE SLEEPERS generally need pillows thick enough to fill in the space between the side of the head and mattress surface. How thick a pillow is affected in part by how firm the mattress is.

BACK SLEEPERS, on the other hand, do better with a pillow thin enough so that the head is not forced forward too much. This principle also applies to people who read or watch TV in bed. Rather than propping up with 2 or 3 pillows under the head it’s better to raise the whole upper body with a wedge pillow or adjustable bed.

What if you sleep on both side and back? Most of us gravitate to a pillow that is thin enough to not injure us when on the back and then increase the thickness when on the side by putting our arm under the head or folding our pillow. A good contour pillow (see below) can help here.

STOMACH SLEEPERS have a problem. Not only does stomach sleeping risk neck injury but this position arches the lower back excessively, contributing to pain there. Some people can break the stomach sleeping habit and it’s worth the effort. Otherwise a contour pillow can help.

Laying on the back for 5 or 10 minutes before and after sleeping with the pillow providing neck support undoes a lot of injury created by time spent on the stomach. If the pillow is thick enough you may be able to lay face down and still breathe. This won’t help the lower back but neck stress will be less.

The best CONTOUR PILLOWS are thick enough to support the neck neutrally when on the side, provide adequate (but not too thick) neck support when on the back and allow face-down laying when on the stomach. They have an indentation of various shapes in the center for the head but remain thick around the periphery for side sleeping. The trade-off with contour pillows is that they are usually quite dense and not comfortable for some patients.

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Your 10 Minute a Day Program to Keep Your Body Active and Pain-Free
**THE STORK: ONE-LEG BALANCE**

**STEP 1— START POSITION:**
FIND YOUR BEST POSTURE
1. Stand straight and look straight ahead
2. Be aware of your position and alignment
3. Check your:
   - Feet— Are they facing straight ahead?
   - Pelvis— Is it level?
   - Shoulders— Are they down and back?
   - Head— Is it level?

**STEP 2— STORK— LIFT RIGHT LEG**
KEEP YOUR BEST POSTURE AND
MOVE WITH SLOW CONTROL
- Pull your stomach in
- Lift your thigh so it's parallel to the floor
- Keep your ankle under your knee
  - Hips, knees and ankle @ 90°

**GOAL: 30 SECOND HOLD WITH BEST POSTURE**
REPEAT WITH THE LEFT LEG

**PURPOSE:**
- Aligning your perception of where you think you are in space with the true reality

**GOAL:**
- Building a Strong Core for StrongPosture™
- Strengthening Balance

**AWARE POSITION:**
- Best Posture

**CONSCIOUS MOTION:**
With controlled motion
- Lift right leg
- Hold for 5 controlled breaths
- Repeat with left leg

**IF YOU HAVE TO**
- Twist
- Wave your arms
- Dance/hop around
- OR OTHERWISE CAN'T KEEP STRONG BALANCE...

**PUT YOUR FOOT DOWN AND START AGAIN**

Stand Strong with Stork three times a day for Strong Balance and Strong Posture.
FOCUSED PELVIC TILT

STEP 1—START POSITION: WALL LEAN
Stand with heels a foot from wall
  Feet parallel and shoulder-width
  Knees locked but not hyper-extended
Buttocks pressed to wall
Shoulders down and pressed to wall
Hands against the wall, equidistant from the body
  Palms facing forward
Head level, look straight ahead
  Head should touch wall ONLY IF HEAD STAYS LEVEL

STEP 2—AS YOU BREATHE IN: PELVIC ARCH
Keep legs, torso and pelvis locked as your buttocks slide toward the ceiling

STEP 3—AS YOU BREATHE OUT: PELVIC TUCK
Flatten the low back with smooth, breath-controlled motion
  As you tuck
    • Keep knees locked
    • Keep shoulders down and relaxed
    • Keep head level
    • Breathe out
    • Pull your stomach in
    • Push your buttocks toward the floor
    • Press your belly button to the wall
    • Lift your pubic bone
    • Tighten your bottom

STEP 4—REPEAT FOR 5 SLOW, CONTROLLED BREATHS

LET THE BREATH CONTROL THE MOTION
BREATHE IN & ARCH,
BREATHE OUT & TUCK

Level head and lock knees
Place hands comfortably against wall, palms forward
Imagine there are bungee cords pulling your middle finger out toward the floor.

TIPS
• Rotate the bottom of your spine (tailbone) under your body
  (imagine a puppy putting his tail between his legs)
• Roll your thighs together
• Press your big toe into the floor

BodyZonic.com

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**Neck Retractions**

**STEP 1—START POSITION: WALL LEAN**
Stand with heels a foot from wall
- Feet parallel and shoulder-width
- Knees locked but not hyper-extended
- Buttocks pressed to wall
- Shoulders down and pressed to wall
- Hands against the wall, equidistant from the body
- Palms facing forward

**HEAD LEVEL**
- Look straight ahead
- Head touches wall ONLY IF HEAD STAYS LEVEL

**STEP 2—AS YOU BREATHE IN: GLIDE HEAD FORWARD (PROTRACT)**
- Keeping head level, gently glide head forward
- Keep shoulders down and knees locked
- Press buttocks against wall and keep a slight Pelvic Tuck

**STEP 3—AS YOU BREATHE OUT: PRESS HEAD BACK (RETRACT)**
- Glide head backward with smooth, breath-controlled motion.
  - **As you press back and retract:**
    - Keep head level
    - Don't look or tilt up
    - Keep shoulders down & relaxed
    - Maintain Strong Pelvis
    - Keep knees locked *and*
    - Breathe out
    - Pull your shoulder blades toward your spine
    - Pull your stomach in

*Press back towards the wall, and only gently Explore forward head motion.*

**TIP:** A finger on your chin can keep the head level, as if it were on railroad tracks.

- Sitting at a computer, watching TV, and other habits of modern life create a "Forward Head Posture," which leads to neck pain and posture degeneration. Neck Retractions wake up tiny unused muscles between each spinal vertebra.

Posture is how you balance your body, and strengthening awareness and control of how you balance your head on your torso is a necessary step on the path to StrongPosture™.

---

**KEEP HEAD LEVEL**
- **USE BREATHE CONTROL**
- **GENTLY EXPLORE Forward Protract**
- **& PRESS the Backward Retract**
- **KEEP KNEES LOCKED**
Arms UP (Shoulder Girdle Stabilization)

**STEP 1—START POSITION: WALL LEAN**
- Heels a foot from wall, feet parallel & shoulder width, knees locked
- Buttocks and shoulders to wall
- Head LEVEL
- Hands against the wall, palms forward

**STEP 2—PELVIC TILT**
BREATHE IN WITH AN EASY PELVIC ARCH, BREATHE OUT AND FIRMLY TUCK THE PELVIS

**STEP 3—DO A PELVIC ARCH & LIFT ARMS UP**
With smooth, breath-controlled motion, Breathe IN and
- Raise elbows to shoulder height
  - Keep upper arms parallel to floor
- Elbows locked at 90°
- Hands open and aligned with forearms, IF POSSIBLE, touch hands to wall

**STEP 4—DO A PELVIC TUCK AS YOU BREATHE OUT AND KEEP NECK AND SHOULDERS LOCKED AND STRONG**
REPEAT FOR 5 SLOW, CONSCIOUS BREATHS

**AS YOU BREATHE IN**
- Level and retract your head
- Align your hands with forearms
  - It's fine if they don't touch the wall...
  - just keep them back
- Relax and drop shoulders
- Pull your shoulder blades toward your spine
  - Press their edges together
- Lock knees

**AS YOU BREATHE OUT**
- Pull your stomach and deep core in
- Press your belly button to the wall
- Lift your pubic bone and push your buttocks down
- Press the shoulders and elbows against the wall
- Keep hands back as you are able

Strengthening control of how the head balances over the torso, the torso over the pelvis, and the pelvis over the legs is a key to StrongPosture™.

Posture is how you balance your body.
Posture Angels

STEP 1—START POSITION: WALL LEAN
- Heels a foot from wall, feet parallel & shoulder width, knees locked
- Buttocks and shoulders to wall
- HEAD LEVEL
- Hands against the wall, palms forward

STEP 2—PELVIC TILT:
BREATHE IN & ARCH, BREATHE OUT & TUCK

STEP 3—ARMS UP
BREATHE IN WITH A PELVIC ARCH &
BREATHE OUT AND DO A PELVIC TUCK
KEEP NECK AND SHOULDERS LOCKED AND STRONG

STEP 4—RAISE ARMS
BREATHE IN AND ARCH PELVIS
With smooth, breath-controlled motion,
- Raise hands towards ceiling
  Keep forearms parallel
  Keep hands and forearms aligned
  IF POSSIBLE, touch hands to wall

STEP 5—LOWER ARMS
BREATHE OUT AND TUCK PELVIS
- Lower elbows toward floor
  Keep forearms parallel
  Keep hands and forearms aligned
  IF POSSIBLE, touch hands to wall
KEEP NECK AND SHOULDERS LOCKED AND STRONG

REPEAT FOR 5 SLOW, CONSCIOUS BREATHS

BREATHE IN & ARCH AS YOU RAISE ARMS
- Lift hands toward ceiling
  Align your hands to forearms
  It's OK if they don't touch the wall
- Level and retract head
- Pull your inner shoulder blades together
- Lock knees

BREATHE OUT & TUCK AS YOU AS YOU LOWER ARMS
- Lower Arms
  Keep forearms parallel
  Keep hands and forearms aligned
  Press the shoulders and elbows against the wall
  Keep hands back as you are able
- Pull your stomach and deep core in
- Press your belly button to the wall
- Lift your pubic bone and push your buttocks down

KEEP StrongPosture, with
- Elbows parallel, hands pressed back
- Head level
- Knees Locked

MOVE with Breath
Lift arms, arch and breathe IN
Lower arms, tuck, and breathe OUT

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**STRONGPOSTURE™ EXERCISE: Motion (Ball) 1.1**

**DATE:** ___/___/___ Daily Posture Exercise

**PURPOSE:**
- Aligning your perception of where your body is in space with true reality
- Reprogram pelvic motion while balancing with strong posture

**GOAL:**
- STRONGPOSTURE™ control of pelvic motion to “wake up” and train deep, core muscles

**AWARE POSITION:**
- STRONGPOSTURE™ BallSit

**CONSCIOUS MOTION:**
With STRONGPOSTURE™
- 1st- Pelvic arch
- Then- Pelvic tuck

Keep strong neck and shoulder retraction and follow your breath for 5 controlled BallTilts

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**STEP 1— START POSITION: BALLSIT**

Sitting on a ball with STRONGPOSTURE™ strengthens balance as you unconsciously activate deep core muscles
- Feet parallel and hip distance apart
- Knees over ankles and at 90°
- Thighs level with floor
- Shoulders over hips
- Head and back erect
- Hands by your side

If you don’t feel stable, put hands on your knees

**STEP 2— BALLTILT ARCH**

BREATHE IN WITH A PELVIC ARCH

With controlled motion
- Roll the pelvis forward and ball backward
- Keep knees locked
- Keep shoulders and head back

**STEP 3— BALLTILT TUCK**

BREATHE OUT AND TUCK YOUR PELVIS

Roll the ball forward

**KEEP KNEES, SHOULDERS AND NECK LOCKED AND STRONG**

LET YOUR BREATH DRIVE YOUR MOTION

REPEAT FOR 5 SLOW, CONSCIOUS BREATHS

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**BodyZon.com**

Avoid moving knees.
Avoid moving shoulders & head.

Keep STRONGPOSTURE™ & Breathe to strengthen posture by focusing motion on deep pelvic muscles
**BALLSTRETCH**

**STEP 1 — START POSITION: BALLTILT**

**STEP 2 — BALLTILT TUCK AND DROP**
BREATHE OUT WITH A PELVIC TUCK AND DROP TOWARD THE FLOOR

With controlled motion
- Bend knees and
- Walk forward until your head touches ball

**STEP 3 — BALLSTRETCH**
BREATHE IN AND RELAX YOUR PELVIS

Walk slowly backward
- Let your spine curve and lengthen over the ball
- Reach your arms overhead and toward floor when you feel stable
- If you can, touch the floor, but don’t strain

RELAX & STRETCH FOR 5 CONSCIOUS BREATHS
- Breathe in and push your belly out
- Breathe out and tuck your neck

**STEP 4 — BALLSTRETCH SIT UP**
USING CORE STOMACH MUSCLES

Walk forward and bend knees
- Hips to floor
- Tuck pelvis
- Chin to chest
- Walk back and sit up

**BALLSTRETCH IS A GREAT ANTI-SITTING STRETCH**

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**AB FOCUS**

**EXERCISE:**
**Motion (Ball) 1.3**

*Please fill in:_/__/__ Daily Posture Exercise

||
| TRQNGBALANCE | sec/ | X/day |
| TRQNGALIGNMENT | x/ | X/day |
| TRQNGMOTION | x/ | X/day |

**PURPOSE:**
- AbFocus on the ball requires you to stabilize & balance as you contract abs with control, working the abs far more than traditional situps, ab rollers, etc.

**GOAL:**
- Fully lengthening and then contracting the abdominals
- Use core muscles to maintain balance on the ball and train new motion patterns

**AWARE POSITION:**
- Drop and Tuck

**CONSCIOUS MOTION:**
With controlled motion
- AbCrunch and breathe out
- AbLengthen and breathe in
Repeat for 5 controlled breaths

**STEP 1— START POSITION BALLSTRETCH**

**STEP 2— DROP AND TUCK**
WITH A CORE-CONTROLLED PELVIC TUCK, DROP DOWN
- Keep head and pelvis on ball
- Bring hands to shoulders, elbows shoulder-width apart

**STEP 3— ABCRUNCH**
BREATHE OUT, &
ONE AT A TIME, WITH CORE MUSCLE CONTROLLED MOTION

1. Tuck Pelvis—
Don't move knees or roll ball
*And then*

2. Bring chin to chest
*And then*

3. Pull belly to spine and crunch

**STEP 4— ABLENGTHEN**
BREATHE IN &
USE CORE CONTROL TO (ONE AT A TIME)
1. Drop shoulders to ball (keep chin and pelvic tuck)
2. Drop head to ball (keep pelvic tuck)
3. Drop pelvis to ball
Fully relax pelvis

Repeat AbCrunch and AbLengthen for 5 slow breaths
Move with control
Progression: Increase repetitions as able but always maintain StrongPosture™ form

**BREATHING:**
Breathe OUT as you slowly curl UP
Breathe IN as you curl DOWN
Breathe from the lower abs and press the belly to the spine with a "ZipUp" motion

**IMPORTANT:** Move with StrongPosture™ control to protect your neck and back

**Strong Abs help you Stand Tall and Move Young**

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**BALL SIDESTRETCH**

**EXERCISE:**
**StrongPosture™**
**Motion (Ball) 1.4**

**PURPOSE:**
- Fully lengthen side muscles to open lateral torso and ribcage

**GOAL:**
- Fully lengthening and then contracting the torso muscles on each side
- Use core muscles to maintain balance on the ball and train new motion patterns

**AWARE POSITION:**
- BallStretch

**CONSCIOUS MOTION:**
- Tuck and Drop
- AbCrunch
- AbTwist
- Reach and Lengthen for 3 relaxed breaths

**SIDECRUNCH PROGRESSION:**
SideCrunch and breathe out

Lenghthen in SideStretch and breathe in

**STRETCH evenly on both sides**
When posture is asymmetrical, then motion is unbalanced

SideStretch finds unbalanced motion and teaches symmetrical lateral torso control to strengthen difficult-to-isolate core

---

**STEP 1— START POSITION: BALLSTRETCH**

**STEP 2— TUCK AND DROP:**
WITH A CORE-CONTROLLED PELVIC TUCK
- Keep your head and pelvis on ball
- Keep hands above shoulders

**STEP 3— ABCRUNCH: BREATHE OUT**
USE BELLY/CORE CONTROL
1. Tuck Pelvis— Do not move knees or roll ball
2. Bring chin to chest
3. Pull belly button to spine

**STEP 4— TWIST WITH CORE CONTROL**
Pivot with both feet firmly planted— don’t step over

**STEP 5— REACH AND LENGTHEN**
WITH STRONG POSTURE BREATHE IN
1. Press bottom edge of feet down
2. Straighten knees
3. Square hips and then shoulders
4. Take 3 slow breaths

**STEP 6— TUCK AND DROP**
1. Bend knees, tuck pelvis and breathe out
2. Pivot on feet and rotate pelvis

Roll to the other side
Then roll the long way 'round to Ball-Hug (Motion 1.5)
**BALLHUG & PROGRESSIONS**

**STEP 1—BALLHUG**

**PURPOSE:**
- BallHug is a great spinal de-stressor that helps relieve pain by allowing spinal joints to fully open.
- Lying on a ball supports the body and stretches side posture muscles.

**GOAL:**
- Unlock spinal joints and tight postural muscles (passive relaxation with support).

**CONSCIOUS MOTION:**
- Relax and roll gently forward and backward over the ball, allowing the spine to stretch for 3 controlled breaths.

**PROGRESSIONS:**
- One-Leg Lift
- One-Arm Lift
- Cross Crawl

Hold with StrongPosture™ for 3 breaths.

**STEP 2—3 BREATHS**
- Relax your legs
- Relax your arms
- Relax your head

**SIDESTRETCH / BALLHUG TRANSITION**

From SideStretch, use breath-controlled motion to roll onto belly:
- Bend knees
- Tuck pelvis
- Exhale
- Pivot on feet

Bouncing or flinging your body means you are not using your core to effectively stabilize.

**BALLHUG PROGRESSIONS**
- Keep Pelvis Level
- Keep Shoulders Level
- Keep Neck Retracted

Keep the chin tucked to lengthen your neck as you relax.

BallHug is great for de-stressing, and can help relieve postural back and neck muscle pain.

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BodyZonic.com
**SUPERMAN**

**EXERCISE:**

**Motion (Ball) 1.6**

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**PURPOSE:**
- Superman isolates and strengthens the stabilizing muscles of the pelvis and spine

**GOAL:**
- Stabilize lower body, neck and arms
- Then lift and lower torso to activate muscles at each spinal level

**AWARE POSITION:**
- BallHug

**CONSCIOUS MOTION:**
- With controlled motion
- Breathe in with Superman Lift
  - Build StrongPosture™ from the feet up
- Hold StrongPosture™
- Lower with Superman Drop and breathe out
  - From the shoulders down

---

**STEP 1—START POSITION BALLHUG**

**STEP 2—ALIGN AND STABILIZE FROM THE BOTTOM UP**
- Stabilize Feet
  - Hip distance apart and parallel
  - Add stability by pressing feet to wall
- Lock Knees
- Tuck Pelvis with strong core
- Retract Neck

**STEP 3—SUPERMAN**
- Raise Arms, palms facing one another
  - Lock Elbows next to ears
  - Keep:
    - Knees locked
    - Pelvis tucked
    - Neck retracted

**HOLD WITH STRONGPOSTURE™**

**STEP 4—UP, UP AND AWAY SUPERMAN LIFT**
- BREATHE IN AND LIFT TORSO
  - Keep:
    - Knees locked
    - Pelvis tucked
    - Arms next to ears
    - Neck retracted

**HOLD WITH STRONGPOSTURE™**

**STEP 5—SUPERMAN DROP**
- BREATHE OUT AND LOWER TORSO
  - Use core control
  - Keep arms locked next to head until you fully lower torso

**THEN**
- Relax arms

**THEN**
- Relax pelvis and knees

---

**ONLY COME UP AS HIGH AS YOU CAN WITH CONTROL**
- Hyper-extending can overstress the low back and cause injury
- Keep your pelvis tucked to protect your low back

**Do Not**
- Bend Knees
- Arch Back

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**STPONG POSTURE™**
**EXERCISE:**
**Motion (Ball) 1.7**

**Date:** __/__/__  Daily Posture Exercise for: __________

**STRONG BALANCE**  __/__/__  __/__/__
- 90° Leg
- 90° Thigh
- assist
- SlabTr

**STRONG ALIGNMENT**  __/__/__  __/__/__
- PT/Tr
- CTran
- 5 Breath
- Mod
- Neck Lock
- Pelvic Lock
- Angles

**STRONG MOTION**  __/__/__  __/__/__
- BallTuck
- BallStretch
- AbFocus
- SideStretch
- BallHug
- Superman
- CatStretch

**PEP init**  __/__/__  **Recheck:** __/__/__

**PURPOSE:**
- Unlock restricted shoulders, chest and spinal joints and promote coupled spinal motion

**GOAL:**
- Fully lengthening and then contracting the abdominals
- Use core muscles to maintain balance on the ball and train new motion patterns

**AWARE POSITION:**
- Ball RollOut

**CONSCIOUS MOTION:**
- CatArch and Breathe IN
- CatTuck and Breathe OUT
  - Press the lower abs to the spine with a "ZipUp" motion
  - Repeat for 5 controlled breaths

**Peelbacks:**
- Tight hips/low back modification: Drop hips toward feet
- Tight shoulders modification: Cross arms on ball

**STEP 1—START POSITION**
**KNEES DOWN**
BallHug (or Superman Down)

**STEP 2—BALL ROLLOUT**
WITH BELLY IN & STRONG CORE
SLOWLY ROLL BALL AWAY
Keep hips over knees
Drop chest toward floor

**STEP 3—CAT ARCH**
BREATHE IN AND ARCH
WITH STRONG CORE MOTION
Look up
Drop belly
Keep shoulders and hips level

**STEP 4—CAT TUCK**
BREATHE OUT AND TUCK
WITH CONTROLLED MOTION
Look down
Round back
Drop pelvis to ball
Keep shoulders and hips level

**BENT ARM PEELBACK**
for tight or restricted shoulders

**Cycly between CatTuck and CatArch for 5 slow breaths**

**Use core control to return to Knees Down**
Ideal: Keep hips over knees

**IMPORTANT:**
Keep shoulders and hips level during CatArch and CatTuck
Pull your belly in and use core control to fully flex/extend spine and pelvis through their full range of motion

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