



PRI BREATHING TECHNIQUES

1. How should we breathe? Like a baby.
 - The abdomen expands first, then the chest. Don't use the neck!
 - Breathe in through the nose and out through the mouth, or in and out through the nose for quiet breathing 8 to 10 times per minute.
 - When performing breathing exercises, exhale twice as long as inhaling to recruit abdominals.

Why?

 - The bottoms of the lungs have a better blood supply, so there is good oxygen for the body.
 - The diaphragm will get a lot of use, which prevents it from becoming tight and/or dormant.
 - There will be less use of secondary respiratory muscles, and therefore less chance of neck pain, headache, shoulder pain, and back pain.
 - Posture improves as a result of all of the above. You will feel better.
2. Observation Breathing
 - Position: seated with eyes closed and your feet flat on the floor and with your knees level with or above the hips. Comfortable clothing.
 - Observe or focus on your breathing, however, do not attempt to alter it.
 - As you passively follow your breathing pattern of inhalation and exhalation, even as it may change, try to note when each phase begins and ends. Allow yourself to completely relax.
3. Exhalation Breathing
 - Position: sitting with feet flat on the floor and knees level with or above hips, or lying on your back with knees raised and supported.
 - Focus on your breathing, however, do not attempt to alter it.
 - Concentrate on the exhalation phase of breathing **only**.
 - Exhale through your mouth "haaaa..." or sigh as you exhale.
 - Think of exhalation as the beginning of the breathing cycle.
4. Individual Breathing
 - Position: lay on your back with knees raised and supported and with eyes closed.
 - Focus on your breathing, however, do not attempt to alter it.
 - Imagine upon inhalation that the universe is blowing air into your entire body. Imagine upon exhalation that air is being "pulled" from your entire body.
 - Continue in this manner for several breathing cycles.
5. Stimulation Breathing
 - Position: sitting with eyes closed and your tongue placed on the alveolar ridge (soft tissue between the teeth and the roof of the mouth).
 - Keep your mouth closed, quickly inhale and exhale through your nose.
 - Try to keep each phase short and equal. These quick short breaths will activate musculature at the base of the neck.
 - Attempt to breathe 2 cycles per second for a total of 15 seconds for the first session, then increasing total time to eventually 1 minute.
6. Relaxing Breathing
 - Position: sitting, on your back, standing, or walking.
 - Place your tongue on the alveolar ridge. Maximally exhale making an "ah" sound. Close your mouth and silently inhale while counting to 4. Do not exhale...hold for 4 seconds.
 - Now exhale through your mouth with an "ah" sound for 8 seconds.
 - Repeat this cycle 3 more times.



References:

1. Schiller D. The little zen companion. Workman Pub, 1994, p. 114.
2. Hendler S. The oxygen breakthrough – thirty days to an illness-free life. Pocket Books, 1989, pp. 85-95.
3. Padus E. Your emotions and your health. Rodale Press Inc., 1986, pp.260-262.
4. Reid D, Dechman G. Considerations when testing and training the respiratory muscles. Physical Therapy: 75(11), Nov, 1995.
5. Wells PE, Framptom V, Bowsher D. Pain management by physical therapy. Butterworth Heinemann, 1994, pp. 177-187.
6. Griffin J, Karselis T. Physical agents for physical therapists. Charles C. Thompson, 1982: pp14-15.

Breathing exercises were adapted and adjusted from the book “Spontaneous Healing” by Dr. Andrew Weil. Published by Alfred A. Knopf Inc. 1995, pp. 204-207.

1. Yoga Deep Breathing
 - Position: sitting.
 - Exhale making an “ah” sound. Time yourself and try to increase the duration of exhalation each time you do this exercise.
2. Vacuum Breathing
 - Position: sitting.
 - Breathe normally for 1 minute as you exhale making a groaning sound and inhale attempting to make the same groaning sound.
3. Yoga Deep Breathing
 - Position: standing.
 - Exhale through your nose. Attempt to keep your entire body very still with the exception of your stomach and chest.
 - Contract the sphincter muscles of the rectum by pulling them inwards and upwards.
 - Quietly exhale & then immediately inhale deeply through your nose. Repeat 10 times.
4. Relaxation Breathing
 - Position: on your back with eyes covered and knees supported.
 - Breathe slowly & deeply relaxing each set of muscles individually from your head to toes.
 - Then, concentrate on breathing into every muscle simultaneously.
 - Repeat, concentrating on tensing your entire body and then gradually relaxing each muscle.
5. Purification Breathing
 - Position: sitting.
 - Slowly exhale through left nostril, keeping the right nostril closed with your right thumb.
 - Then close the left nostril with the right ring finger, open the right nostril and slowly inhale.
 - Repeat this cycle trying to keep each phase equal in length.
 - Then switch, exhaling through the right nostril and inhaling through the left.

Adapted from “Dance with Fear” by Paul Foxman.



HRUSKA RELIEF POSITION

(Based off the Brugger Relief Position)

1. Perch at the edge of your chair.
2. Abduct (moves out to the side) and externally rotate (turn out) your legs.
3. Lift your sternum (breastbone) slightly.
4. Tuck your chin in and look straight ahead.
5. Supinate (turn out) your arms as you slowly inhale with your diaphragm through your nose.
6. Feel your upper lateral chest wall open.
7. Avoid using neck muscles.
8. Repeat 2-3 times every 20-30 minutes when sitting.

SUPINE HOOKLYING SYNCHRONIZED RESISTED GLUTE MAX

1. Lie on your back with your feet placed on a 2-inch block.
2. Place a band around your knees.
3. Start with your knees together and place your arms at your side with your elbows bent at a 90-degree angle.
4. Inhale through your nose as you turn your knees and hands out to the side keeping your elbows at your side.
5. Exhale through your mouth as you bring your knees and hands back together slowly. At the end of exhalation, perform a pelvic tilt so that your tailbone is raised slightly off the mat. Keep your back flat on the mat.
6. Continue the sequence of inhalation while bringing your hands and knees out and exhalation bringing your hands and knees in.
7. Perform a pelvic tilt at the end of each exhalation.
8. Concentrate on filling your chest more with each inhalation using your diaphragm not your neck.
9. Relax and repeat this sequence 4 more times.



GAYMAN'S TECHNIQUE

1. Sit in a chair keeping your back slightly rounded.
2. Look straight ahead with your eyes and place your tongue against the hard palate of your mouth just behind your top teeth.
3. Keep your palms face up resting on your knees with your fingers above your thumbs.
4. As you inhale lift your toes up and as you exhale press your toes down. Allow your chest to expand on inhalation without raising your shoulders and fall on exhalation.



SUPINE HOOKLYING T8 EXTENSION

1. Lie on your back with your feet on a 2-inch block.
2. Inhale through your nose and as you exhale through your mouth, push down with your heels and perform a pelvic tilt so that your tailbone is raised slightly off the mat. Keep your back flat on the mat. You should feel the muscles on the back of your thighs engage. As you are performing the pelvic tilt reach towards the ceiling with both of your arms.
3. Maintaining the position of your arms and hips, inhale and fill your upper chest with air as you keep your low back flat on the mat. Let your arms passively move towards your head as you inhale.
4. Exhale and let your lower ribs sink down keeping your arms and hips stationary.
5. Inhale again filling your upper chest with air and let your arms move further towards your head upon inhalation.
6. Exhale and let your lower ribs sink down further and keep your low back on the ground.
7. Continue this sequence for one more breath in and out letting your arms move back further upon inhalation without letting your ribs come up.
8. Relax and repeat 4 more times.



WHY BALLOONS?

The balloon blow facilitates **MUSCLE ACTIVATION** of abdominals which are flexors of the spine/trunk. Therefore it helps to facilitate **MUSCLE INHIBITION** of paraspinals. (Several of my patients say it helps shut off their back muscles which decreases back pain from hypertonic paraspinals.) The abdominal activation helps to oppose the diaphragm for efficient breathing and abdominals in general oppose all dysfunctional patterns (i.e. L AIC, R BC, PEC, R TMCC) so most people benefit from muscle activation of abdominals. The balloon provides a slowing down of the exhalation phase of respiration which is helpful for decreasing SOB and many other conditions (refer to basic physiology text books for the formulas on respiratory breathing rates) and it facilitates depression of ribs (which is good for ribs that are too elevated/externally rotated and lumbar spines that are excessively lordotic) which therefore increases the ZOA which is necessary for increased exercise tolerance, efficient respiration etc. The resisted exhalation also helps to increase the **INTRA ABDOMINAL PRESSURE (IAP)**. This is needed for core/spinal stability. If a patient clamps off the balloon with any strategy, they essentially are augmenting the IAP that is required to be able to inhale again without loss of air in the balloon. If they don't clamp it off, the increase in IAP is required of the **ABDOMINALS** and diaphragm via position/ZOA which is what we are after. – **Kyndall Boyle, PT, PhD, OCS**

When you have the person create a seal using their tongue instead of pinching the balloon you:

1. encourage "up"/resting position of the tongue
2. encourage activation of left lateral pterygoid
3. create a negative space to restore the dome position of the soft palate (restoring ZOA in the cranium)
4. encourage obliques to stay activated during the pause at the end of the exhalation phase.

If they pinch the balloon they will lose the zone, whereas if they don't pinch the only way the balloon will not deflate is if they stay in the zone - **Jeanna Viramontes, MPT, PRC**