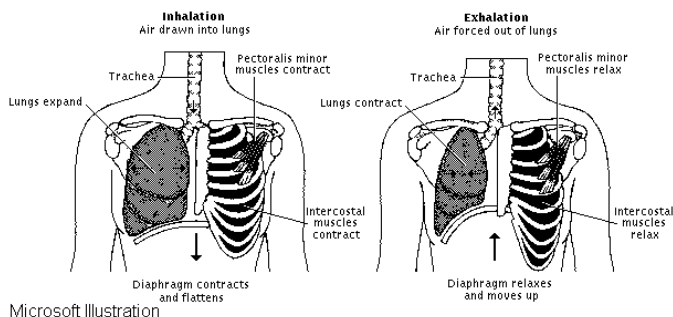


ABDOMINAL BREATHING FOR VITALITY AND RELAXATION

Diaphragm and Respiration

As the diaphragm contracts and moves downward, the pectoralis minor and intercostal muscles pull the rib cage outward. The chest cavity expands, and air rushes into the lungs through the trachea to fill the resulting vacuum. When the diaphragm relaxes to its normal, upwardly curving position, the lungs contract, and air is forced out.



Deep Abdominal Breathing

“Breathing into your abdomen” simply means that you are allowing your diaphragm to contract fully when you inhale. This permits the lungs to bring in more air with each breath, making your breathing more efficient. During times of stress, tension or emergency your breathing will become shallow and fast. This is part of your *sympathetic nervous system* (fight or flight response – constrict blood vessels, raise blood pressure, stop digestive and excretory systems, send blood to the major muscle groups, etc) which is preparing your body for action. When you concentrate on your breathing and pull in slow, deliberate deep abdominal breaths; you are creating a calming effect on your nervous system and helping to stimulate the *parasympathetic response* which, among other things, lowers your heart rate, decreases blood pressure, dilates blood vessels, and stimulates digestion and excretory functions.

How to...

Most of us have learned to breathe from our chests. Yet, belly breathing is the natural way (observe a baby), and a great stress reducing habit. Sit or lie comfortably in a relaxed position. Focus your attention on your breathing. Be away from distractions and noise when you are first learning to do this. Plan about 10 minutes for this initial exercise. As you slowly breathe in, let your belly expand. Think of it as a balloon you are filling with air. As you exhale, slowly let the air out of your “balloon.” Concentrate on exhaling all the air from your lungs and, inhaling to full capacity. Place a hand on your stomach to draw attention to your breathing and to feel it rise and lower as you breathe. With a little practice you should be able to see your abdomen expand upon inhalation. Once you have learned to “breathe into your belly” you will be able to do it anywhere and anytime; driving in your car, attending a meeting, in a stressful conversation, etc. This simple technique helps keep your body in a relaxed and calmer state.

Do the math...

Your lungs have the capacity to hold about 5700-6200 ml of air. About 1200 of that is *residual* volume, this cannot be exhaled as it is necessary to keep your lungs inflated. So you are left with a *vital capacity* of about 4500-5000 ml. During normal *tidal* (so called because it goes in and out like the tide) breathing, you exchange about 500 ml each breath and breathe about 15 times per minute. When you concentrate on deep abdominal breathing you should be able to exchange around 4000 ml of air, but your rate of breathing will drop to 8 – 10 breaths per minute.

Tidal breathing:	500 ml x 15 bpm =	7500 ml air/minute
Abdominal Breathing:	4000 ml x 8 bpm =	32000 ml/ minute

Abdominal breathing brings in around 4 times the amount of air per minute than tidal breathing.

Oxygen is what we need to survive. Tidal breathing provides just enough oxygen to keep our bodies alive in a non-active state. Deep breathing produces more oxygen with is carried to every cell in your body through your blood. This additional oxygen allows your cells to produce more energy and function more effectively. You will find benefits such as: clarity of thought, alertness with relaxation, tense muscles relax, energy increases, creative problem solving is enhanced, and more. Deep abdominal breathing is one of the first skills taught in learning meditation and the martial arts. It can be applied to relax the body for deep meditation or to prepare the body for a vigorous workout.