

Deep Breathing Techniques Prolonging the Inhale and Exhale

Breathing Techniques

There are many different breathing techniques. Some are very simple and others are quite complicated. The more we start with the simple actions and begin to practice them routinely, the better prepared we are to use the more complicated breathing techniques. It will take a long time of practice to master any of the techniques so we need not be in a hurry. Taking things slow and easy is the best strategy.

- Part 1
 - *The Belly Breath – breathing with the diaphragm muscle*
 - *The 4 Part Breath – breathing with all the respiratory muscles (a complete breath)*
- Part 2
 - The Pausing Breath (Viloma Pranayama)
 - Ujjayi Breathing (sound breath)
- Part 3
 - Alternate Nostril Breathing (Nadi Shodhan Pranayama)
- **Part 4 (today's practice)**
 - **Anuloma Pranayama – Prolonged Exhale**
 - **Pratiloma Pranayama - Prolonged Inhale**
- Part 5
 - Lion's Breath
- Part 6
 - Bhasrika Pranayama (Bellows breath)
- Part 7
 - Sitali Breath

Creating the Right Posture

The correct posture is necessary for getting the most out of pranayama. As a beginning measure, it is often best to use a posture lying on the back with the neck, rib cage, lower back, pelvis, arms and legs in an optimal and neutral position. This is especially true if you are prone to neck or shoulder tension. When reclined, the head and shoulders may be elevated on cushions if this is more comfortable.

A seated position can be also be used, but care must be taken to create an aligned posture and maintain an uplifted rib cage and elongated spine. The position of the head may be tipped forward to reduce neck strain. A bolster, chair, or bench may be helpful to reduce discomfort. Be sure that your legs are not uncomfortable or subject to reduced circulation. It is important that the body feel no strain or discomfort while practicing pranayama. Those who wish to sit on the floor may use a wall to help support the body.



Pranayama Traditions

Traditionally there are 4 stages of Pranayama

1. **Arambha** - the commencement stage wherein the person's interest in Pranayama is awakened
2. **Ghata** - the stage where the three sariras (bodies) merge to envelope the soul. The three sariras are gross, subtle, and causal.
3. **Parichay**- the stage where the yogi experiences the knowledge of Pranayama
4. **Nispatti**- the stage where the yogi goes beyond his physical body, and unites with the supreme

Basic Breathing Practice

4:7:8 Method

The 4-7-8 breathing technique is a breathing pattern developed by Dr. Andrew Weil.

- Sit or recline with proper posture.
- Exhale through your mouth, making a whooshing noise.
- Now, inhale through your nose for 4 seconds.
- Pause your breath for 7 seconds.
- Exhale through your mouth, making a whooshing sound for 8 seconds.

Continue with this pattern for four breaths.

Anatomy of Breathing Circulation

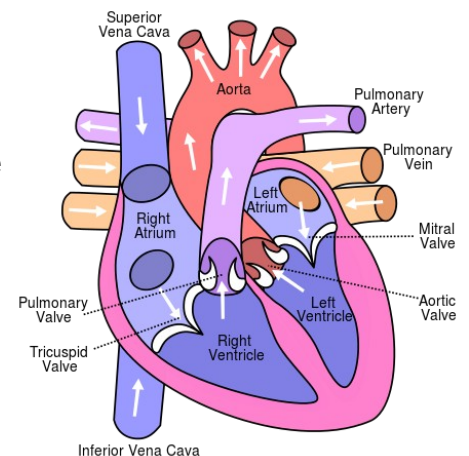


Circulation is a complex relationship between our heart, lungs, blood vessels, blood cells and the nervous system that controls it all. We are at this very minute under the influence of a vast cooperation between many organ systems to regulate our heart rate, blood pressure and tissue oxygenation. When our system works well we experience our peaks of optimal health and when the system moves into disarray, we can experience our lowest lows that can ultimately lead to our early demise.

The Heart

The human heart is located on the left side of our chest. The location can vary slightly with some having the heart more central. The location of the heart affects the lungs, causing the left lung to have two lobes while the right lung has space enough for three lobes.

The heart is a muscular organ that pumps blood that fills its chambers by repeated and rhythmic contractions. The tissue of the heart is specialized cardiac muscle that is similar to skeletal muscle.



On average, the adult human heart beats around 72 beats per minute and will during an 80 year life span beat over 3 billion times. The average heart pumps around 4 to 6 liters of blood per minute and weighs about 9 to 11 ounces in women and 11 to 12 ounces in men. It is about the size of a fist and is located between our breast bone and our vertebral spine.

There are four chambers to the human heart. There are two atria, which are the receiving chambers for the blood and two ventricle chambers which discharge the blood. The action of the heart is called a cardiac cycle. During a cardiac cycle, the atria contract first which forces blood that has entered them into the ventricles. The ventricles will then contract which will force the blood out of the heart, either into the lungs or into the body. Each side of the heart performs a different function for the body.

The pathway of blood has a pulmonary circuit (right heart chambers) and a systemic circuit (left heart chambers). De-oxygenated blood comes from the body and flows into the right atrium. As the right atrium contracts it pumps the blood through the tricuspid valve into the right ventricle. The contraction of the right ventricle forces the blood through the pulmonary valve into the veins leading to the lungs.

At the same time this is happening, on the left side of the heart, oxygenated blood is pumped from the lungs into the left atrium. As the left atrium contracts (simultaneously with the right atrium) it pumps the oxygen rich blood through the mitral valve and into the left ventricle. When the left ventricle contracts (at the same time as the right ventricle) it pumps the oxygenated blood into the aortic valve and the aorta leading to body-wide circulation.

The entire single heart beat lasts about 0.8 seconds. The electrical signals generated by the heart are conducted through our body to the skin where they can be detected by electrodes and recorded as an electrocardiogram or ECG. The heart rhythm recorded by an ECG can give evidence to heart health or heart issues.

Blood Vessels

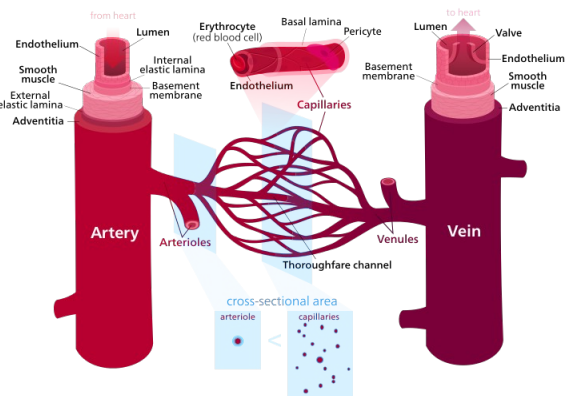
Our circulatory system is an organ system that permits the flow of blood throughout our body. The heart pumping action circulates the blood through a vascular system to carry oxygen and nutrients to our cells and remove waste materials away from our body tissues.

There are three major types of blood vessels.

Vessels that carry oxygen rich blood away from the heart are called **arteries**. The arteries carry the blood to the **capillaries**, which are very small and allow the actual exchange of water and chemicals between the blood and our tissues. The vessels that carry the oxygen poor blood away from the capillaries and toward the heart are called **veins**. The total length of the arteries, veins and capillaries in our body is vast, totaling over 93,000 miles in length.

Arteries are different sizes, with the aorta being the largest and directly connected to the heart. Branching from the aorta and smaller than it are the carotid artery, subclavian artery, celiac trunk, mesenteric arteries, the renal and iliac artery. Smaller still are arterioles that link the larger arteries to the capillaries, which are the smallest blood vessels.

Veins are also different in sizes with the smallest called venules connecting to the capillaries and taking blood away from them. The venules connect to veins and become larger as they subclavian vein, jugular vein, renal and iliac vein. The venae cavae are the two largest veins, carrying blood directly into the heart.



Prolonging the Inhale and Exhale

Learning to breathe deeply and slowly is an action that requires persistent practice. Most of the time we are unaware of the act of breathing, much less the amount of time we are spending inhaling or exhaling.

Anuloma and Pratiloma Pranayama are traditional practices where the goal is to control the duration of either the exhaled breath duration or the inhaled breath duration. Sometimes the nostrils or a nostril is blocked, much like in the Alternate Nostril breathing method.

The act of prolonging a breath, in or out, is about making ourselves aware of our current rate of breathing and then slowing down the breath. It is not necessary to practice for long periods of time, especially at first. If you begin to feel light-headed, anxious or out of breath, just return to your normal breathing and your body will relax.

Anuloma Pranayama – Prolonged Exhale

1. Sit comfortably with proper posture.
2. Inhale deeply through both nostrils.
3. Gently, using your fingers, partially close both nostrils.
4. Slowly exhale without any force.
5. Repeat for two to ten minutes.

Pratiloma Pranayama - Prolonged Inhale


1. Sit comfortably with proper posture.
2. Exhale deeply.
3. Partially close both nostrils with your fingers.
4. Inhale slowly and deeply until your lungs are full.
5. Repeat for two to ten minutes.

Counting Method – Prolonged Exhale

1. Sit or recline comfortably with proper posture.
2. On your next inhale, notice the number of seconds it take to inhale completely.
3. As you exhale, notice the number of seconds to completely exhale.
4. Now breathe in as deeply as possible as you count the seconds.
5. Begin to slowly exhale as if breathing out through a small straw.
6. Try to exhale for two seconds longer than you inhaled.
7. Every two breaths, try to increase the duration of your exhale another two seconds.
8. After several breaths, return to your normal breathing pattern.

With practice, the exhale duration can become double the duration of the inhale.

Yoga to Enhance the Breath

<u>Wide Leg Forward Bend</u>	<u>Instruction</u>
	<ul style="list-style-type: none"> - Stand with your feet comfortably wide apart. - Lift your chest away from your hips to lengthen your back. - Slowly bend forward and bend your knees. <ul style="list-style-type: none"> - Rest your elbows on your knees. - Reach your chest away from your hips and keep your low back curve neutral. - Slowly and gently straighten your knees just enough to feel a mild stretch in the back of your legs. <ul style="list-style-type: none"> - Keep your elbows on your knees. - Breathe deeply and hold the pose for a few deep breaths. - To come out, first bring your hands to your knees and lift your chin, then gradually straighten up.