

# Tempering the Mettle: The Practice of Bellows Breathing

## Pranayama

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There was a time when you didn't have to go far to find a blacksmith working his bellows, drawing and pushing blasts of air across glowing coals to generate the heat needed to bend metal. While the era of the blacksmith is gone, the image of his bellows remains as an appropriate metaphor for the vigorous breathing practice called *bhastrika*, which means "bellows" in Sanskrit.

In this breathing technique, the action of the abdominal muscles and diaphragm pushes and draws air in and out of the lungs like the blacksmith's bellows, generating heat within the body by vigorously working the cardiovascular system. The bellows breath squeezes blood in and out of the digestive organs, toning the liver, spleen, stomach, and pancreas and increasing digestive capacity. Stoking the pranic fire with *bhastrika* enhances health and vitality--tempering the mettle.

### Preparation

To begin the practice of *bhastrika*, sit in a steady, comfortable posture with the spine straight and the shoulders rolled back. Beginners can sit in a simple cross-legged pose or in a kneeling position. More advanced students can sit in *siddhasana* (the adept or accomplished pose) or *swastikasana* (the auspicious pose). If none of these poses is comfortable, try sitting on the edge of a firm chair with your back straight, feet resting flat on the floor, and hands resting palms down on the thighs. Resting your back against the chair or hunching the shoulders and rounding the back in any position compresses the abdomen and inhibits the motions of both inhalation and exhalation. Be sure to practice in a well-ventilated room. In the winter, opening the window even a crack will freshen the air supply.

### Technique

After establishing the correct posture, take a slow, deep inhalation. Let the abdomen fully expand. This first slow inhalation ensures that you begin with plenty of oxygen and works against the tendency to exhale more than you inhale, a common mistake made by beginners. After the first inhalation, both exhalations and inhalations should be forceful: exhalation is produced by quickly contracting the abdomen. Inhalation is quick and diaphragmatic.

The challenge in *bhastrika* is to coordinate the action of the diaphragm and abdominal muscles so that air moves quickly in and out of the lungs like a bellows. As the

abdominal muscles relax at the end of an exhalation, the diaphragm actively contracts to begin inhalation. As the diaphragm begins to release its contraction after the peak of inhalation, the abdominal muscles begin to contract. Coordinating these two opposite muscle groups in rapid bellows breathing takes time and attention. Monitor the strength of the exhalation and inhalation and try to make them roughly equal in force.

You will hear both the inhalation and exhalation in the practice of *bhastrika*. This active, more complete inhalation is what distinguishes *bhastrika* from *kapalabhati*, a breathing technique in which only the exhalation is audible. The two techniques are similar both move air vigorously out of the lungs during exhalation by forceful contractions of the abdomen but in *kapalabhati* the inhalation is effortless and spontaneous, without the diaphragmatic muscle actively contracting. In *bhastrika*, the inhalation is forceful and is produced by an active contraction of the diaphragm.

Practice a minimum of seven breaths of *bhastrika* at a rate that is comfortable and that allows you to observe the motions of the diaphragm and abdomen. To begin, one breath every second is rapid enough. Later you can increase the rate to two breaths every three seconds. Athletes and people who regularly exercise may be able to comfortably start with fifteen to twenty breaths at the rate of one breath per second. Still, it's important to set a limit when you first begin to practice. Concentrate on perfecting the technique, and don't fall into the habit of doing too many repetitions that is, inhaling and exhaling until the breath becomes progressively weaker and less effective.

When you finish a round or one set of repetitions, take a few deep, diaphragmatic breaths, or do the complete breath and then let your breathing gradually return to normal. As you grow more proficient, you can do two or more rounds of seven or more breaths, using the deep, diaphragmatic breath to rest between rounds. Remember that it's better to do fewer repetitions with equal vigor than a greater amount in which the breath peters out.

### **Cautions and Precautions**

One mistake some students make when beginning the practice of *bhastrika* is breathing paradoxically pushing the abdomen out with the exhalation and contracting the abdomen with the inhalation. Paradoxical breathing inhibits the action of the diaphragm, making it difficult for the lungs to expand downward. Paradoxical breathing may sound like *bhastrika*, but the effect is to create a vigorous suppressed inhalation that is inefficient as well as disturbing. To ensure that you do not fall into this habit, put your hand on the navel center and make sure the navel is moving toward the spine on the exhalation. Once you are confident that you are breathing correctly, you can rest both hands more comfortably on the thighs.

If you feel a stitch in the side or a sharp pain under the ribs (similar to the cramping action a long-distance runner sometimes experiences), stop practicing and return to simple diaphragmatic breathing. If you feel on edge and irritable, you may be practicing too aggressively, causing the carbon dioxide levels in the bloodstream to drop more quickly than your body can handle, resulting in hyperventilation. The body responds by

decreasing the blood supply to the brain, resulting in temporary lightheadedness, anxiousness, and perhaps accompanying sensations of tingling in the fingertips and lips. The unpleasant symptoms will disappear with simple diaphragmatic breathing.

Similarly, feeling worn out or spacey is an indication that you are doing too much or not resting adequately between rounds. Practicing twice per day, up to three rounds at a time, you can safely add five repetitions per week to the number of repetitions per round. If week number one includes three rounds of 15 repetitions, week two can include three rounds of 20 repetitions, and week three, 25 repetitions. If you find your practice interrupted for several days due to illness or other circumstances, carefully watch your capacity when you start practicing again and be willing to decrease repetitions if necessary.

Because *bhastrika* increases intra-abdominal pressure, it is not an appropriate practice for women during menstruation or pregnancy or for women using an Intra-Uterine-Device (IUD). Likewise, it may be inappropriate for those suffering from ulcers, hiatal hernia, constipation, heart disease, or high blood pressure, or for anyone controlling blood pressure with medication. Consider consulting a physician before you begin practicing *bhastrika* if you suffer from any of these conditions. Since most physicians will not be familiar with the technique, make sure you carefully explain how it works and what its effects are. *Bhastrika* is difficult-to-impossible to perform with moderate to severe nasal congestion, and forcing mucus through the eustachian tube into the middle ear can cause an ear infection.

## **Variations**

By turning the head from side to side in synchronization with the breath, you can channel the breath flow through a particular nostril. Turning the head to the right, for example, creates a mechanical pressure that encourages air flow through the left nostril. The movement of the head from side to side and back to center is coordinated with the breathing.

Begin by sitting in a comfortable posture facing forward. Slowly inhale to begin the practice. Then exhale and inhale forcefully. Immediately turn your head to one side. Exhale and inhale vigorously once, and then turn the head back to center and exhale and inhale vigorously for a second breath. Now turn the head to the opposite side for the third breath. Return to center and continue this pattern. Each breath should be completed before turning the head, but at the same time allow no discernible pause in breathing while turning the head. This may take a little practice, but it is possible to do this variation almost as quickly as regular *bhastrika*.

Another method for alternating breath flow through the nostrils during *bhastrika* is to close off one nostril as in alternate nostril breathing. Simply fold the index finger and middle finger to the palm while leaving the thumb, small finger, and ring finger extended. This hand position is called *vishnu mudra*, in which slight movements of the thumb or ring finger easily close or open a nostril.

Begin by raising the hand to the level of the nose rather than lowering the head to meet the hand. Fold the index finger and middle finger to the palm. Using the thumb or fourth finger, gently press the outside of each nostril, in turn, until it closes, while exhaling through the open nostril. Compare the relative ease of breathing through each nostril to determine which is more open. Usually you can tell which nostril is “active,” because a greater amount of air seems to be exhaled through it. Now inhale deeply through both nostrils. Close off the restricted or passive nostril. Through the active nostril, exhale and inhale forcefully as in normal bhasrika. Then immediately close the active nostril and exhale and inhale forcefully through the passive side. Continue to alternate the breath flow from side to side.

In this practice, one of the nostrils is always closed. Vishnu mudra allows you to open and close the nostrils easily and quickly with no discernible pause in the breath, so you can practice at your normal rate. Since, unlike side-to-side bellows, you are completely closing off one nostril, don't do this variation if you have nasal congestion or a deviated septum.

### **The Benefits**

Bhasrika can clear the nasal passages, sinuses, and lungs. It massages the abdominal organs, stimulates the liver, spleen, and pancreas, and can help to evacuate the bowels. Bhasrika stimulates the cardiovascular system, although it cannot really replace aerobic exercise. That is because it's generally not possible to practice bhasrika for the same length of time as aerobics, and therefore you can't get the same amount of exercise. Bhasrika may accelerate the heart rate to a level comparable to aerobic activity, but the respiration rate during the practice is considerably higher than during typical aerobic activities.

Imagine a person practicing bhasrika at the rate of two breaths each second. That's top speed for an experienced practitioner sixty breaths in just thirty seconds. That same person may take about twenty breaths in thirty seconds during light jogging. With bhasrika the breath rate is three times faster than during jogging. Even doing bhasrika at the beginning rate of one breath every second would mean breathing half again as fast as at a moderate jogging rate. This intense rate of respiration is why an individual can't maintain bhasrika as long as a typical aerobic activity. Breathing rapidly can be exhausting!

Even though it is not a substitute for aerobic exercise, a moderately intense regimen of bhasrika along with kapalabhati still exercises the cardiovascular system and helps keep it in shape despite lapses in regular aerobic activity. Once I had to stay in bed for weeks waiting for a blood clot in my leg to dissolve. I knew I would languish in bed without regular exercise, but fortunately I knew two invigorating techniques, kapalabhati and bhasrika. I had never worked with them consistently, but what better opportunity?

During the next five weeks of my confinement, I practiced two or three rounds of kapalabhati and bhasrika three times a day. Gradually I increased the number of

repetitions. Instead of waning in health and vigor during this period, I experienced one of the most enjoyable and productive respites of my life.

Bhastrika is one of the most powerful breathing practices available to the student of yoga. It is not difficult to learn and does not require much time to practice, yet it yields considerable benefits. Just as the blacksmith learns to work the bellows efficiently to create heat, so, too, you can intensify the inner fire with bellows breathing.

But remember that overdoing it may leave you feeling edgy and irritable. Astute self-observation and a healthy respect for your limits are especially important. As you advance, you will tap a reservoir of energy that can bring more vitality into your life as well as greatly enhance your spiritual practice.

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