

## **Pranayama - breathing exercise for free divers**

We take 21.600 breathes in 24 hours, approximately 15-20 breaths in a minute. If you slow down your breath with deep controlled breathing you also slow down the heart rate, because its 1:4 related. To be able to dive safe as long as possible the blood should be enriched with oxygen on the one hand, on the other hand your heart beat should be slow, so you are burning as less oxygen as possible. It's also important to have mental control to come back to the surface slow and save. All these purposes are fulfilled with the regular training of *pranayama*. Beside this the exercises have healthy aspects. They improve blood circulation and the exchange of the gases in the tissue. Blockages can be opened and the body gets a better oxygen supply.

The best time to practice is early morning, but they can be done anytime. If you do *asanas* (body positions) too, keep a break for at least two hours. *Pranayama* should be practice before meals, at least wait 2 hours after eating. It's recommended to do not more than two exercises a day. Take your time and finish the practice always with 5-10 minutes of *savasana* – final relaxation.

It's strongly advised to learn *pranayama* with a teacher. It can be a very powerful tool and it's necessary to built up the exercises slowly according to the abilities and needs of the student. If you are practicing alone and experience any kind of discomfort, pain, shortness of breath, narrow feeling in the chest, nausea or dizziness stop the exercise immediately and rest in *savasana*. Do not practice any further on this day. If the problems continue or occur again consult a yoga teacher or a doctor.

### ***Sitting position***

Conduct *pranayama* in comfortable seated position like

- Vajrasana: Diamond position, folded feet form a seat for buttocks
- Siddhasana: Easy Pose, crossed legs
- Padmasana: Lotus position

It is very important to keep the spine long and straight and the shoulders relaxed. Hands are resting on the thighs or knees. You can also sit on a cushion or on a chair, if it's more comfortable to keep the spine straight for a longer time in this position.

## **Mudra: hand position**

### *Vishnu Mudra*

Perform it always with the right hand. Index and middle finger are bent and touch the palm. With the thumb you close the right nostril, with ring and the small finger the left one.

### *Chin Mudra*

Thumb and index finger form a ring, the tips touch gently. The other three fingers are straight. Let the hands rest on the thighs or put them on the knee. The elbows coming close to the body, shoulders are relaxed.

## **Warm ups**

The following exercises improve the elasticity of ribcage, release tension from the shoulder area and increasing lung flexibility. Sit in one of the above described positions and keep your spine upright.

- Bring your upper arms horizontal in shoulder height, elbows bend, so your low arms are vertical and the arms show a 90° angle. Exhale and bring the arms in front of you, inhale and open up as far as possible, bringing the shoulder blades together. Make sure the elbows stay in shoulder height. This exercise can also be done in standing position with bending the knees while exhaling and straighten them while inhaling.
- Lean to one side, bringing one hand on the floor and stretch the other with an exhalation over the head, making your body as long as possible, so you stretch the side of your body. Inhale, come up and exhale while bending to the other side. This can also be done in standing position, having the legs in a triangle position.
- Bring the right hand to the left knee, exhale and twist your body back, looking back as far as you can. Hold for a few breaths. Inhale, turn back, left hand on the right knee, exhale and twist in the other direction. After a few breaths come out of the position.
- “Paint” an 8 with your nose in the air, 3-5 x in each direction
- Put your hands behind your back and interlock the fingers, palms upward. Inhale deeply and bend forward while exhaling. Raise at the same time the arms until they are stretched out. Do not bend the elbows, which should remain straight throughout. Bend over as far as you can, optional until your forehead touches the floor. Keep your head down, trying to swing your arms a bit higher. Remain a moment in this position, holding your breath; then inhale and come up again. Repeat the movement 3-5 times without unlocking your fingers. (Can also be done in standing position.)
- **Jesta**  
*Bend the head slightly and bring your hand on your shoulder blades left and right of your spine. Elbows pointing up, shoulders should be relaxed and breathe normal without any sound.*  
Hold the position for 1-2 minutes. Then bring your arms down and breathe relaxed for a minute. Practice 5 times. This is training arms, shoulder and Neck, opens the chest and brings energy to the whole area. It can produce heat in the body.

## ***Jala Neti - Nose Cleaning***

Take saltwater (1 teaspoon for 1½ l water) and fill a little bowl full. Close one nostril and suck the water with a half breath through the other one. Make sure the nostril is completely in the water, because you should suck no air. Spit it out through the mouth.

Do it 2-3 times on both sides in the morning or before *pranayama*.

It cleans and clears the nostrils, which makes sure you can use both nostrils equally. Also avoids getting colds and problems with equalisation.

## **Breathing Exercises**

### ***1. Anuloma Krama***

Anuloma Krama works on the inhalation. It's useful if more attention is needed, it helps focusing the mind and is activating. The inhalation gets intensified; it improves capacity for the lungs and expands the chest.

*Inhale, count 2*

*Hold, count 2*

*Continue inhale, count 2*

*Hold, count 2*

*Continue inhale, count 2*

*(go on until the lungs are full)*

*Exhale free*

Repeat retention on the inhalation for 5-10 breaths (= 1 cycle). Then rest. You can do up to 10 cycles.

### ***2. Alternate nostril breathing (Nadi shodhana)***

This exercise makes sure you breathing regularly through both nostrils. A healthy person breathes usually 1h 50 min through the left nostril and then the same amount of time through the other right. This rhythm is important to keep the body in balance. Often it's disturbed by a blocked nostril or by other reasons and the *pranayama* can correct the rhythm.

The same length of inhalation and exhalation is important. You can count to 4 on the in- and exhale, to get a regular rhythm and stay concentrated. If you count 4 on the inhale and 8 on the exhale then you calm your nerves and relax the mind.

Prelude: exhale left, close right nostril with thumb

*Inhale left*

*Close left nostril with ring and small finger, open right (Vishnu Mudra)*

*Exhale right*

*Inhale right*

*Close right nostril with thumb, open left (Vishnu Mudra)*

*Exhale left, (one cycle)*

*Inhale left ...*

Practice 5-10 minutes. It's helpful to start every pranayama practice always with about 2-3 minutes Nadi Shodhana.

### **3. Breath holding (Kumbhaka)**

The breathing is on one hand an unconscious, automatic organic activity. On the other hand it can be dominated and controlled by the will. If you hold the breath a conflict arises between the will and the instinct. The CO<sub>2</sub>-level rises, the oxygen level sinks. The longer I can control the mechanism with my will the longer I can control myself mentally.

A normal person can hold the breath for 25-75 seconds. The time is not depending on the last breath but from the oxygen level in the blood. Most of the oxygen is transported in the blood, so the level depends on the number and kind of breaths before the breath holding.

All phases of the breathing have to be under control. It should not be stopped in a hard or jagged way but soft and easy. Same when you start to breathe again. If this is not under control you have gone too far and should work in smaller steps.

The moment you stop the breathing, prana is set free in the body and moves into the whole organism. A yogi moves the energy then by will into the places where he wants it to be.

Outer breathing: the exchange of gases in the lungs

Inner breathing: cell breathing. Every cell absorbs oxygen, when it gets in touch with it. The oxidation produces energy.

*pranayama* stimulates the cell breathing. This way it produces inside warmth, the body temperature rises and the organism is deeply activated.

3-20 seconds of breath holding:

During this time the air is better "digested". It stays longer in the lungs and there is more time for the gases to exchange. More oxygen is taken in, more CO<sub>2</sub> moves out.

20-90 seconds of breath holding:

In this time you can experience a stronger reaction. The body doesn't get energy anymore

from the breathing so it takes the sugar in the cells. The CO<sub>2</sub> level rises and the body gets warmer, because it's not longer cooled by the lungs.

90 or more seconds of breath holding:

After 1½ minutes you can experience ecstatic state. The body rejuvenates and physiological changes take place. The spleen is activated, which contracts and produces more red blood cells.

We do the same exercise with holding the breath in between and counting 4-16-8. Always use the full time to count for inhalation or exhalation. If you feel, you are running out of air and have problems to keep the rhythm easy, especially the exhalation, reduce the counting to 3-12-6. Later on you can increase to 5-20-10 and so on. It's always 1:4:2. A strict rhythm is important, more than the duration of the exercise.

*Exhale left, right nostril closed with thumb*

*Inhale left (count to 4)*

*Hold the breath, close the nose with Vishnu Mudra (counting to 16)*

*Exhale right, left nostril is closed with ring and small finger (counting to 8)*

*Inhale right (count to 4)*

*Hold the breath, close the nose with Vishnu Mudra (counting to 16)*

*Exhale left, right nostril closed with thumb (counting to 8) (one cycle)*

*Inhale left (count to 4) and so on ...*

Try to do the pranayama for 5-10 minutes.

#### **4. Breath holding with empty lungs.**

A variation of the breath holding pranayama is special helpful for free divers, for its also training breath holding with empty lungs, without overextending the time. The rhythm is 3-9-6-9.

*Exhale left, right nostril closed with thumb*

*Inhale left (count to 3)*

*Hold the breath, close the nose with Vishnu Mudra (counting to 9)*

*Exhale right, left nostril is closed with ring and small finger (counting to 6)*

*Hold the breath, close the nose with Vishnu Mudra (counting to 9)*

*Inhale right (count to 3)*

*Hold the breath, close the nose with Vishnu Mudra (counting to 9)*

*Exhale left, right nostril closed with thumb (counting to 6) (one cycle)*

*Inhale left (count to 3) and so on ...*

## 5. UJJAYI

In Asthanga Yoga this technique is used while practicing the *asanas* (body positions). It makes the breathing longer and deeper, trains the breath control and supports the body with more oxygen.

Ujjayi means “force back of the throat”. Have the throat slightly closed, so the breathing is forced and makes an hissing sound. The glottises are half closed and the passing air produces heat in the body, augments the oxygen supply and avoids thyroid and parathyroid problems.

Ujjayi strengthens the nervous and digestive system and gets rid of phlegm.

Practice 3-10 minutes. If you feel your throat gets sore, stop the exercise and go on the next day.

## 5. BHASTRIKA / KAPALABHATI

This breathing practice is described as mimicking the action of a bellows (Bhastrika) blowing on a fire. As the name suggests, it consists of a series of rapid inhalations and exhalations.

The in- and exhalations are made by forcefully contracting the upper abdominal muscles and pushing air out of the lungs. Bhastrika is very heating and is not for those with weak constitutions or eye, ear or blood pressure pathology. It is expanding the lungs, eliminate toxins and augment the blood circulation. It also cleans the sinuses and the nose, special if you close one nostril and blow only through one side. Don't do the *pranayama* if you suffer from a cold or blockade of the sinuses.

*Close your eyes*

*Inhale and exhale 8-10 fast and forceful, end with exhalation.*

*Hold the breath for 10-15 sec. (1 cycle)*

Do 3 to 4 cycles and always rest after that in savasana.

The cleaning technique **Kapalabhati** (means light skull) is often introduced as a *pranayama*. The difference to Bhastrika lies in the passive inhalation. It's a milder form of exercises than Bhastrika. Only the exhalation is forceful and active. The inhalations are made by releasing the contracted muscles and allowing the breath to passively flow into the lungs.

Kapalabhati can be practiced in a standing position to clean the digesting system. For this you bend slightly the knees and rest your hands on your knees. Then you exhale forcefully and let the air passively pass in.

“Hyperventilations” like Kapalabhati und Bhastrika lower the CO<sub>2</sub>-level in the body. To balance this they should always be followed by a breath hold. Do NOT practice these exercises just before going free diving! Use it only for training purposes.

These exercises activate liver, pancreas and the digesting system. They refresh the brain and vitalize the whole body. But they also can be very exhausting. Lungs and heard can be overstrained. Practice with care and stop immediately when you feel nausea or any discomfort feeling and take a rest.

## **SAVASANA – THE FINAL RELAXATION**

This is possibly the most important posture, the Corpse. Usually performed at the end of a session, the goal is conscious relaxation. Begin by lying on your back, feet slightly apart, arms at your sides with palms facing up. Close your eyes and take several slow, deep breaths. Allow your body to sink into the ground. Try focusing on a specific part of the body and willing it to relax. From your feet, move on to your calves, thighs and so on up to your face and head. Then simply breathe and relax. Stay in the pose for at least 5-10 minutes. This pose relaxes and refreshes the body and mind, relieves stress and anxiety, quiets the mind. Cover yourself maybe with a blanket Make to make sure the body is not cooling out. Don't fall asleep.