

Breathing

We breathe by drawing air rich in oxygen into our lungs, as we inhale, and expel air with high carbon dioxide content when we exhale. Thus, drawing in the oxygen we need for metabolism and expelling the waste carbon dioxide our metabolism produces.

Types of Breathing

We breathe in by creating reduced pressure in the lungs, which draws in air through our nose or mouth, down the trachea and into the lungs. The reduced pressure is created by expanding our chest cavity by either lifting the ribcage and shoulders or by contracting the diaphragm. We breathe out by doing the reverse, by reducing the volume of our chest cavity, creating a positive pressure in our lungs which forces air up our trachea and out of our nose or mouth.

Predominately using the diaphragm is known as abdominal breathing. This uses the primary respiratory muscles: the diaphragm, the abdominals and to some extent the intercostal muscles. Chest breathing predominately uses the secondary respiratory muscles in the upper chest, neck and shoulders: the pectoralis minors, trapezius, sternocleidomastoids and scalenes.

The primary respiratory muscles are stronger and more efficient than our secondary respiratory muscles, and produce a more natural and effective breathing pattern. We have only to watch a baby to see that abdominal breathing is more natural.

Chest breathing produces shallower breaths and so requires a faster breath rate to obtain sufficient oxygen, when compared to abdominal breathing. Conversely, abdominal breathing produces deeper (of greater volume) breaths allowing a slower and more relaxed breathing rate.

Mechanics of Abdominal Breathing

The diaphragm is a dome shaped muscle that separates the chest and abdomen. When relaxed, it is concave and protrudes into the chest cavity. Contracting the diaphragm flattens it, pulling it down and expanding the volume of the chest cavity. As it relaxes it returns to its dome shape pushing back into the chest cavity. Abdominal breathing uses the contraction and relaxation of the diaphragm to change the size of the chest cavity and draw air into and out of the lungs.

As we take an abdominal breath the abdomen swells outwards as the diaphragm contracts, and then draws in as the diaphragm relaxes. The pelvic floor may also expand (move downwards) with the in breath and rise with the out breath. A very slight rocking of the pelvis may also occur with each breath. As we breath in the pelvis will naturally tip forwards, ever so slightly, lifting the coccyx out and upwards, and rock back as we breath out. All of these movements allow the diaphragm to descend more easily by not increasing the pressure in the abdominal cavity during the in breath.

The movements of the abdomen and the hips should be relaxed and unforced. The breath should drive the movements, rather than the movements being consciously driven. The hip movement in particular should be very slight; we want the coccyx to remain tucked in during Shibashi practice.

Affects of abdominal breathing

Abdominal breathing allows a larger volume of air to be drawn into and out of the lungs during each breath. Each breath therefore supplies a greater volume of fresh oxygen. This allows a slower breath rate to obtain the oxygen needed. In fact by breathing deeply and slowly fresh oxygen is supplied to a greater volume of the lung allowing increased oxygen uptake, and in turn allowing even slower and deeper breaths.

Abdominal breathing also slows down the exhalation rate. This has the effect of slightly increasing the carbon dioxide concentration in the blood. This sounds like a negative effect, but it actually promotes a number of positive effects as long as it is balanced by the increased oxygen supplied by abdominal breathing. Increased carbon dioxide causes blood vessels to relax allowing greater blood flow all around the body, including greater blood flow to the brain, which in turn tends to dampen the autonomic nervous system and encourages a reduction in brainwave frequency. The brainwaves will tend to shift from Beta to Alpha frequencies, promoting a sense of alert calmness during abdominal breathing.

Health benefits of abdominal breathing

From a Traditional Chinese Medicine viewpoint, abdominal breathing allows Qi to be drawn to the Dantian, allowing it to be replenished and stored there. This extra Qi will enliven all the organs and functions of your body via the Channels of Qi and thus promote health.

From a Western Medicine perspective abdominal breathing has a number of proven health benefits:

1. The full movement of the diaphragm gently massages the organs in the abdomen. It also helps to pump blood around the body and encourages the flow of blood and lymph fluids over and around the organs, thus encouraging their healthy function.

2. Abdominal breathing encourages the relaxation response, promoting relaxation and allowing it to be used to help in controlling stress. It has also been shown to be useful as a means to help cope and control certain stress induced conditions such as anxiety, panic attacks and insomnia. A range of stress induced ailments may also be controlled or alleviated by abdominal breathing. These include asthma, chronic fatigue syndrome, high blood pressure and some skin conditions, such as eczema.
3. Abdominal breathing can also be effective in alleviating chronic pain. This is again, through its ability to promote the relaxation response. This can help to relax muscles which tense up due to pain and tend to aggravate the problem. It also improves circulation which will often have a positive effect on pain. Using abdominal breathing exercises can help to induce a relaxed frame of mind, which in turn reduces pain perception, and can be used as a positive strategy to distract the mind from the pain.

Breathing in Shibashi

There are three methods of breathing that are commonly used with Taiji Shibashi: Natural breathing, Abdominal breathing and Reverse Abdominal breathing.

Natural breathing should be relaxed; the breathing pattern that occurs without trying consciously control the breath. This method may be useful when first learning the Shibashi movements. It avoids splitting your attention between unfamiliar movements and your breathing.

Abdominal breathing is the preferred method when performing Shibashi. It promotes relaxation and has the effects and health benefits outlined above.

Reverse Abdominal breathing which can produce a more powerful effects than normal Abdominal breathing, and is used to facilitate different forms of Qi cultivation. It should not be used without the guidance of a qualified teacher, as if practised incorrectly it can upset both breath pattern and Qi flow. It is not recommended as a breathing method for general Shibashi practice.

In Shibashi the movements should follow the breath. In breaths are performed with upward and outward (opening) movements, and out breaths are performed with downwards and inwards (closing) movements. In breaths occur during yang movements to give a feeling of gathering energy, and the out breaths occur during yin movements to give a feeling of concentrating or storing energy.

The in breath should always be through the nose. This is because the air will be filtered by the sinuses removing contaminants before they are drawn into the lungs. The air will also be warmed slightly by its passage through the nose and this helps to avoid the throat becoming dry.

The out breath can be either through the nose or the mouth, or even a combination of the two. Breathing out through the nose has some advantages. The smaller diameter of the sinuses will aid in slowing the out breath improving the oxygen to carbon dioxide balance, promoting the advantages mentioned above. Breathing through the mouth also tends to reduce Qi slightly, and so should be avoided, particularly if debilitated. With some of the larger movements (eg Spinning Wheels) breathing out through the mouth may be more comfortable. It is more important that the breath remains relaxed and unforced, rather than worrying about whether to breathe out through the nose or mouth.

During Shibashi the tip of the tongue should rest against the roof of the mouth. This allows Qi to flow smoothly in the Small Circulation (Micro-Cosmic orbit). It also promotes saliva production which helps avoid dryness in the throat.

Example breath patterns

The breathing in Shibashi follows three basic patterns:

1. Breathing in on the upward portion of the movement, and out on the downward portion of the movement for those movements performed in the Taiji stance. E.g. Broadening one's chest.
2. Breathing in as you draw back, and out as you move forward for the movements performed in Bow stance: Scooping from the sea or Playing with waves.
3. Breathing in as you turn to the side, and out as you come back to the centre. E.g. Dancing with rainbows or Playing with clouds.

Broadening one's chest:

Breath in as the hands rise up to shoulder height and then stretch out to the side of the body. The hands should be at the bottom of their motion at the start of the in breath, and reach their full outward travel at the end of the in breath. The hands should move inwards and then downwards on the out breath. Starting their inward motion at the start of the out breath, and completing their downward motion at the end of the out breath.

Playing with waves:

Breath in as the weight shifts into the back foot and the toes of the front foot lift. The hands draw back in front of the shoulders. The weight should be fully back at the end of the in breath. The weight shifts forwards, and the hands press forwards during the out breath. You start to move forwards at the start of out breath, and complete the forward motion, into a bow stance, as the out breath completes. You then start to draw back as the in breath begins, and complete the backward movement as the in breath completes.

Dancing with rainbows:

Breath in as you turn to the left, lowering the left hand out to the side and allowing the right hand to fold in above the head. The movement should complete as the in breath completes. Then breath out as you turn back to the centre and raise both either side of your head. The movement is repeated on the right with the in breath as you turn and the out breath as you turn back to the centre.