

Respiration and posture are deeply interlinked. Once out of the ocean, life's long slow evolution to the human body involved the simultaneous development of locomotion and respiration as we know it. The muscles in the back we use to lengthen the spine are fundamental to our respiratory capacity. Our respiratory muscles help maintain vertical integrity, not least the diaphragm. The muscles we use to breathe in help us to reach upwards. The muscles we use to breathe out give us postural stability. Our structural muscles are respiratory muscles: and vice versa. This means that what we do to our structure, we are doing to our breathing.

This allows us to dramatically simplify our approach to yoga posture practice. We do not need to separate breathing from posture. We do not need one training in respiration, one training in the bandhas and another in alignment. If we are honouring the inherent integrity of our bodies, by responding to the sensations that express our somatic intelligence, we will be simultaneously recalibrating and integrating our respiratory and structural muscles. At the same time we will be discovering and practicing the bandhas. For the muscles that generate the bandhas are the core structural muscles that also participate in breathing.

When relaxed and inactive, our breathing is taken care of by the diaphragm: there is no need for the participation of the many accessory muscles of respiration. Accordingly the movement of the breath is all naturally expressed in the abdomen, visibly oscillating in and out as the rhythm of the breath. While the navel is in changing relationship to the spine, the ribcage remains passive and a constant distance from the pelvis with the waist and spine short. Deep breathing brings a continuous and dramatic variation in the relationship between the ribcage, waist and pelvis. The ribcage lifts and then falls as it broadens and narrows, while the waist lengthens

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and shortens, and along with it the spine. It involves a continuous change of state in many respiratory muscles: not only the diaphragm but also some accessory respiratory muscles.

The presence of the bandhas stabilises, the relationship between the chest, abdomen and pelvis in a way completely distinct to that of normal, passive breathing. The lower abdomen becomes more or less immobile and draws softly back towards the spine. This is so even during inhalation, within which the descent of the diaphragm is actively though gently resisted by Mulabandha. The ribcage stays lifted away from the pelvis, even during exhalation, which is being structurally resisted by Uddyanabandha. The abdomen remains long, flat, hollow and empty relative to the chest. The chest remains high, open and full relative to the abdomen. Our need for oxygen is taken care of exclusively by the deep power of the diaphragm as in relaxed breathing.

However the respiratory rhythm expresses itself in the upper abdomen around the base of the ribcage. The ribcrests flare softly outwards during the inhalation, and float back towards each other on the exhalation. Muscular contractions usually applied only for deep exhalation and deep inhalation are maintained constantly throughout the full cycle of the breath. It is as if the body is continuously breathing in and breathing out at the same time, with only the diaphragm letting go during the exhalation. This can be quite demanding in the beginning, and the accessory muscles of respiration involved can become quickly tired and easily tight. This is most likely to be felt in the solarplexus or between the shoulderblades. It is not a sign of poor technique but underused muscles. They will become strengthened by the application of the bandhas in the whole body to yoga posture practice. Pain or strong

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sensations felt in the lower back however indicate that an uneven lift of the ribcage has put pressure on the lower back.

Breathing is a deeply misunderstood phenomenon. It is the fundamental expression of life through which it has been maintaining itself since its beginning three thousand five hundred million years ago. Once life came out of the sea and encountered the full power of gravity it developed at the same time the plastic bellows of the lungs where we experience our breathing. Yet respiration is primarily a cellular event, in which gasses are exchanged across the cellular membrane to keep us alive.

Yet we feel our breathing as a rhythmic expansion and contraction of the ribcage and abdomen. Both phases of the breath have their unmistakable presence and power. Even though the exhalation is by nature a passive event which takes place when the muscles active on the inhalation relax, it has a potency that can make it more palpable than any but the deepest inhalations. The reason that the power of the diaphragm is required for the inhalation is that the bones of the ribcage, and the power of the diaphragm, are held in check by the elastic power of the lung tissue. This power is overcome by the power of the diaphragm contracting. It reasserts itself when the diaphragm releases. This is why we need not do anything to support a natural exhalation.

Yet we do not even need do anything about the inhalation either, even though it is an event that depends on muscular activity. Yet this activity is a response to our need for oxygen, which is something mind can never quantify or recognise. Oxygen requirement is being constantly monitored by the brain stem. On the basis of its evaluation of oxygen-carbon dioxide ratios in the blood and all the

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sensori-motor information it is receiving the brain-stem sends the information to respiratory muscles that brings about the inhalation.

Of course we can easily impose on this process and deliberately breathe in more, or out, deeply. Sometimes we need to do this, but usually only when preparing for a sudden exertion that will demand an increase in oxygen. The fact is that the mind can never know how much oxygen we need, and can never help us to breathe more efficiently, except to release us from respiration inhibited by anxiety, fear or habit. If we deliberately apply effort to breathing in we will force more oxygen than we need into the blood. This diminishes the blood's capacity to transport cellular wastes, and causes many more problems than it solves. If we deliberately apply effort to breathing out we are unnecessarily consuming oxygen and glucose to do so. This not only increases our need for oxygen, but calories also. The habit or practice of pushing and pulling the breath during yoga posture practice, a rationalised and sanctified form of hyperventilation, not only leads to exhaustion, but overeating also.

Once we begin to realise that the body is intelligent and knowledgeable enough to take care of its need for oxygen perfectly we can let go of our ability to interfere with our breathing. This relief can go much deeper than anatomical and physiological efficiency. It can help us to realise the intrinsically passive nature of the inhalation. Of course it is a somatic event of muscular contraction. Yet this activity is not designed to pull or suck the inhalation in. It is designed to allow the atmosphere to push itself into the lungs. The direct effect of the contraction of the diaphragm is to expand the volume of the ribcage. This lowers the pressure inside the ribcage. Once the pressure drops below that of the atmosphere the air pushes itself into the lungs. We do not need to pull or suck air in, we need only open and it will come in.

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So it is that both exhalation and inhalation each have their active and passive natures. When we see this clearly we can enjoy the respiratory process as a rhythm of and in surrender, rather than as an opportunity to establish control. By keeping the ribcage high and open, even during the exhalation, the diaphragm has to do very little to drop thoracic pressure below that of the atmosphere. The body need expend very little effort to provide itself with the oxygen it needs. There is very little visible difference between inhalation and exhalation. Instead the actual process of breathing becomes effortless and subtle. This is Ujjayi breathing.

The full lengthening of the spine and lift of the ribcage engages the throat muscles. As they engage the top of the throat narrows as the base opens. A feeling of strong suction can be felt at the base of the throat in the dip of the collarbones. It can feel as though the inhalation is being sucked in from here. At the same time the air, on both phases of the breath makes a more focussed contact with the throat. The in and out flow are much more obvious than usual, the flow of air making more clear contact with the throat. The location and nature of this contact differs between inhalation and exhalation. As too does the soft, subtle sound that it generates. This oscillating sound is the source of the mantra "so-ham". When comfortable and at ease in a posture, this sound will be almost inaudible to anyone but yourself. When being challenged by a new or difficult posture the muscles have to work harder increasing the demand for oxygen. As the breath becomes deeper the flow of air in the throat becomes stronger, the sound louder. Then the breath can easily be heard. This sound is the natural result of increased airflow meeting decreased space. It does not have to be imposed.

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Deliberately making a sound as you breathe is not Ujjayi breathing. This wastes energy, and generates hardness in the nerves. It is never necessary to deliberately do anything to the rhythm of your breathing. Your body always knows exactly how much oxygen it needs. You never need to deliberately breathe deeply in yoga practice. If more oxygen is required, the body will take a deeper breath spontaneously. The constant openness of the ribcage allows a continuous exchange between blood and air throughout the full cycle of each and every breath. So, even though breathing is subtle and effortless plenty of oxygen is constantly available for the body cells. At the same time it is a damaging myth that imposed rhythmic breathing quietens the mind. Rather, it keeps the mind unnecessarily active, and away from the possibility of genuine silence.

At the heart of Ujjayi breathing is awareness of the breathing rhythm. This includes hearing, and even being soothed and focussed by, the gentle, subtle sound of inhalation and exhalation. By feeling the sensations generated by your breathing in your throat you will relax. This will allow the respiratory muscles to let go of hardness and tension. Then the breath flows more freely, and both inhalation and exhalation can become more relaxed, subtle and free. The breath is then experienced as a gentle broadening and narrowing at the base of the ribcage, rather than a rising and falling. For the breath to be taking place truly freely the bandhas must be active, while the diaphragm must be completely free from both tension and intention.

Then attention is taken easily by the breathing rhythm, and away from external sensation (pranayama becoming pratyahara). It is important that you are not distracted from the presence and wisdom of your body by your mind. Allow your mind to support, enjoy and learn from your body. Let go of any need, intention or desire to

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control your breathing and it will take you into the core of your being. Your breath will become soft, slow, smooth and even as your mind becomes calm and quiet. Your breath can be made smooth and even by your mind, but this prevents both breath and mind from letting go and reinforces the sense of self as the controlling centre of body and mind.

Ujjayi breathing is known as the 'breath of tranquillity' because of its profound internalising effect, and naturally initiates the meditative mind (dharana). It is known also as the "victorious breath" as it leads to the surrender of the sense of self. This takes place as attention internalises deeply and mind relaxes enough to let go of its ability to discriminate between inbreath and outbreath, flow and pause, breath and breather. The dualities of the breath are transcended. At the same time so too is the duality of self and other. We begin to become deeply and welcomingly accustomed to selfless awareness. This deeply undermines the tendency to claim actions and experiences for the sense of personal self, and allows the flow of life to express its indivisible wholeness more freely and fully in and as our lives.

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