

# The Science of Breath

By Vaishalee Patel

Remember the last time you were surprised at something? Remember the last time you were very sad? What do you remember about your breathing in these instances? Was it quick, short and irregular? Now remember the last time you were sitting on the beach or by a pool completely relaxed. What do you remember about your breathing in these instances? It was probably very relaxed, regular, slow and deep. Why is that? Why does our breath reflect our emotions and our state of mind? This is because the breath is our direct connection from our mind to our bodies. No detours, completely direct path from mind to body. And the best part is that we have control over it! Which means that we can have complete control over our mind. If we can control our breath, we can control our mind and physical reactions to our external stimulus.

The basis of understanding our breath is to understand how to breathe properly. Yes, properly. We were born breathing the proper way and as we passed the age of 7 or 8, most of us have allowed external stress to change the way we breathe. Everyone is born breathing diaphragmatically. Specifically, this is using the diaphragm muscle to fill and empty the lungs fully and completely. The diaphragm muscle lies beneath the lungs and its primary function is to help you breathe properly. This manifests physically as “belly breathing.” The belly rises as lungs fill with air and the belly falls as the lungs empty. It makes logical sense that our body would expand when we inhale and contract as we exhale. If you have seen a baby breathing, its belly moves up and down.

When we breathe in this manner, our parasympathetic nervous system kicks in and all our systems in our bodies operate more efficiently. What does this mean in our bodies? Our heart rate slows down, blood pressure decreases, organs operate more efficiently, metabolism increases, we heal faster from injury and our muscles relax in our entire body. In our minds, emotions that might be causing stress in our bodies tend to subside. So, by just breathing diaphragmatically we can bring our emotions under our own control and balance our mental state. Overall, we just feel better!

Most of society breathes in an “upper chest” manner where the chest rises and the belly contracts as we inhale and the chest falls and belly expands when we exhale. When we breathe in this shallow manner, only a portion of our lung capacity is used and most of the carbon dioxide stays in our lungs and in our bodies instead of being exhaled out. This causes fatigue, increases toxins and wears us down. Also, the sympathetic nervous is activated, our flight and fight response is turned on, muscles tighten in our whole body, posture suffers. Emotions are heightened and seem to get “out of control”. Adrenaline rushes in our whole bodies, all of our systems are in high alert mode which causes us to age faster.

It's so simple, so tangible. Such a simple thing as breath. The study of the breath is based in science and is easily understood by studying our bodies. Practicing diaphragmatically regularly each day, just for a 5-10 minutes a day can make a very positive impact on our overall health.