



## Ventilator Users and Meditation

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“Since contracting polio in 1961 at age 17, I have used a volume-controlled ventilator that delivers a fixed number of breaths per minute at a fixed tidal volume. My interfaces are a nasal mask at night and a thin plastic tube held between my teeth during the day.

“My disability due to polio prevented me from engaging in physical exercises, but it directed me instead towards more mentally-oriented practices.”

Today, many people seek to improve their physical and emotional well-being by physical exercise, training techniques such as yoga, or by the aid of an increasing number of mental disciplines such as meditation. In most of these mental practices, breathing plays a central role. As a ventilator user, I can advise other ventilator users that they need not feel excluded from practicing these techniques because of their limited breathing.

### Mindfulness meditation

I had not been seriously interested in meditation, except for a short course in Transcendental Meditation in the 1970s, until about five years ago. At that time I began reading books about cognitive behavioral therapy and became attracted to the related concept of mindfulness. Mindfulness, derived from 2,000-year-old Buddhist traditions, has been stripped of the religious trimmings and successfully applied to helping people overcome stress-related health conditions.<sup>1</sup>

In mindfulness meditation techniques, the practitioner’s attention is on the here and now. Some of the techniques consist of “just sitting” and observing one’s train of thought as one would watch leaves floating down a stream. When a new thought enters one’s stream of consciousness, the meditator is to accept and acknowledge it without passing judgment and to gently return to paying attention to, for example, sounds in the environment or to observing the sensations of one’s body. One of the most common practices is to focus on the breath as it enters and leaves the body.<sup>2</sup>

Due to my lack of a functional diaphragm and intercostal muscles, I have had a limited vital capacity for decades, and my breathing is not automatic. Without a ventilator, every breath requires a conscious effort for

activating my auxiliary breathing muscles. When using the ventilator, I am also often aware of my breathing. Physical exertion or emotional stress immediately reminds me of my breathing limitations; I lose my breath, get a flushed face, an increasing heart rate, a drizzling nose or forget what I wanted to say. For these reasons, observing my breathing has become second nature.

Given this habitual observance, it is natural for me to focus on breathing while practicing mindfulness meditation. Whenever a thought comes to mind, the aim is to return to watching my breathing and the sensations it produces in my body. I direct my attention to my mouth, its tendency to get dry as the air leaves the ventilator tube in my mouth; to my lungs as they fill with air; and to the accompanying rise and fall of my abdomen.

### Air stacking

The literature on mindfulness emphasizes that paying attention to one’s breathing should not influence the breathing pattern. The intention is to merely observe and not to force one’s breathing. I often do not follow this advice and use a breathing technique known as air stacking. I hold a breath after it has been delivered and, instead of letting it leave my body, I put the next breath from my ventilator on top of the first one until I have three or

four breaths stacked up, amounting to approximately 3 liters of air. (My vital capacity is probably less than 1 liter these days.)

While air stacking requires an active role – I have to consciously close the soft palate to prevent air from escaping – I still can observe the resulting sensations in my body. Air stacking increases the satisfying sensation caused by the gradual inflation of my thorax. As the ventilator forces in yet another breath, I can feel the pressure deep into my bronchi and alveoli, and my rib cage stretching. Beyond a certain pressure, the gratifying sensation will turn into discomfort. I observe these sensations until my attention is broken by a thought. After becoming aware of the interruption, I refocus on my breathing.

The benefits of air stacking are well documented.<sup>3</sup> Briefly, it prevents the buildup of secretions in the lungs, helps to maintain one's vital capacity and is very helpful in coughing. I repeat air stacking probably 30 times during my daily 30-minute meditation session. Practicing air stacking during meditation has become such a strong habit that I now do it automatically many other times during the day, e.g., at work when I have to wait for my DSL connection, while driving the car, or during a boring meeting.

### **Brain entrainment meditation**

A few years ago I came across a meditation technique that stimulates the brain with sound. The promotional literature promises instant beta or theta brain waves which meditators normally achieve only after years of arduous practice. The technique uses earphones and recorded sounds such as rainfall or surf with embedded,

hardly recognizable frequencies which supposedly cause your brain to produce the brain wave patterns associated with deep meditative states.<sup>4</sup>

I have not verified these claims with an EEG, but after sitting for 30 minutes with my MP3 player and earphones, I usually find myself more relaxed and rested.

### **Current meditation practice**

Every day I try to find a half an hour in a quiet spot where I listen to the brainwave-inducing records in my MP3 player with eyes closed. At the same time, I do my mindfulness meditation and air stacking. Combining these three activities may sound unorthodox to most mindfulness meditation practitioners, but it has worked for me. Since I have started my combination practice, I very seldom have had colds or respiratory infections. According to my wife, I am less irritable and more relaxed now. I have also noticed that I have become better at handling stress and that my outlook on life has become more balanced.

I cannot prove that these benefits are real and sustainable, and due to my meditation practice. But even if they were only caused by a placebo effect, the pleasures I derive from my meditation practice are real, and I look forward to meditating almost each time. Somebody else might experience different results. My point is that using a ventilator need not necessarily present an insurmountable obstacle but finding the technique that fits your needs and physical condition might take some experimentation. ▲

### **References**

1. Wikipedia. <http://en.wikipedia.org/wiki/Mindfulness>
2. Kabat-Zinn, Jon. *Wherever You Go, There You Are: Mindfulness Meditation in Everyday Life*.
3. Bach, John R. [www.doctorbach.com/gpb.htm](http://www.doctorbach.com/gpb.htm) and [www.theuniversityhospital.com/ventilation/html/howitworks/ins.htm](http://www.theuniversityhospital.com/ventilation/html/howitworks/ins.htm)
4. Wikipedia. [http://en.wikipedia.org/wiki/Brainwave\\_synchronization](http://en.wikipedia.org/wiki/Brainwave_synchronization)

There are many different companies on the Internet offering recorded sounds on CDs for stimulating your brain. I have tried only a couple of products and am not aware of any scientific comparative evaluation.