Breathing slowly and deeply through the nose is associated with a relaxation response, says James Nestor, author of *Breath*. As the diaphragm lowers, you're allowing more air into your lungs and your body switches to a more relaxed state.

Humans typically take about 25,000 breaths per day — often without a second thought. But the COVID-19 pandemic has put a new spotlight on respiratory illnesses and the breaths we so often take for granted. Journalist James Nestor became interested in the respiratory system years ago after his doctor recommended he take a breathing class to help his recurring pneumonia and bronchitis.

While researching the science and culture of breathing for his new book, *Breath: The New Science of a Lost Art*, Nestor participated in a study in which his nose was completely plugged for 10 days, forcing him to breathe solely through his mouth. It was not a pleasant experience.
A Tiny Spot In Mouse Brains May Explain How Breathing Calms The Mind

"I went from snoring a couple minutes a night to, within three days, I was snoring four hours a night," he says of the forced mouth-breathing. "I developed sleep apnea. My stress levels were off the charts. My nervous system was a mess. ... I felt awful."

Nestor says the researchers he's talked to recommend taking time to "consciously listen to yourself and [to] feel how breath is affecting you." He notes taking "slow and low" breaths through the nose can help relieve stress and reduce blood pressure.
"This is the way your body wants to take in air," Nestor says. "It lowers the burden of the heart if we breathe properly and if we really engage the diaphragm."

Interview Highlights

**On why nose breathing is better than mouth breathing**
The nose filters, heats and treats raw air. Most of us know that. But so many of us don't realize — at least I didn't realize — how [inhaling through the nose] can trigger different hormones to flood into our bodies, how it can lower our blood pressure ... how it monitors heart rate ... even helps store memories. So it's this incredible organ that ... orchestrates innumerable functions in our body to keep us balanced.

**On how the nose has erectile tissue**
The nose is more closely connected to our genitals than any other organ. It is covered in that same tissue. So when one area gets stimulated, the nose will become stimulated as well. Some people have too close of a connection where they get stimulated in the southerly regions, they will start uncontrollably sneezing. And this condition is common enough that it was given a name called [honeymoon rhinitis](#).
Another thing that is really fascinating is that erectile tissue will pulse on its own. So it will close one nostril and allow breath in through the other nostril, then that other nostril will close and allow breath in. Our bodies do this on their own. ...

A lot of people who've studied this believe that this is the way that our bodies maintain balance, because when we breathe through our right nostril, circulation speeds up [and] the body gets hotter, cortisol levels increase, blood pressure increases. So breathing through the left will relax us more. So blood pressure will decrease, [it] lowers temperature, cools the body, reduces anxiety as well. So our bodies are naturally doing this. And when we breathe through our mouths, we're denying our bodies the ability to do this.

**On how breath affects anxiety**

I talked to a neuropsychologist ... and he explained to me that people with anxieties or other fear-based conditions typically will breathe way too much. So what happens when you breathe that much is you're constantly putting yourself into a state of stress. So you're stimulating that sympathetic side of the nervous system. And the way to change that is to breathe deeply. Because if you think about it, if you're stressed out [and thinking] a tiger is going to
come get you, [or] you're going to get hit by a car, [you] breathe, breathe, breathe as much as you can. But by breathing slowly, that is associated with a relaxation response. So the diaphragm lowers, you're allowing more air into your lungs and your body immediately switches to a relaxed state.

**On why exhaling helps you relax**

Because the exhale is a parasympathetic response. Right now, you can put your hand over your heart. If you take a very slow inhale in, you're going to feel your heart speed up. As you exhale, you should be feeling your heart slow down. So exhaling relaxes the body. And something else happens when we take a very deep breath like this. The diaphragm lowers when we take a breath in, and that sucks a bunch of blood — a huge profusion of blood — into the thoracic cavity. As we exhale, that blood shoots back out through the body.

**On the problem with taking shallow breaths**

You can think about breathing as being in a boat, right? So you can take a bunch of very short, stilted strokes and you're going to get to where you want to go. It's going to take a while, but you'll get there. Or you can take a few very fluid and long strokes and get there so much more efficiently. ... You want to make it very easy for your body to get air, especially if this is an act that we're doing 25,000 times a day. So, by just extending those inhales and exhales, by moving that diaphragm up and down a little more, you can have a profound effect on your blood pressure, on your mental state.

**On how free divers expand their lung capacity to hold their breath for several minutes**

The world record is 12 1/2 minutes. ... Most divers will hold their breath for eight minutes, seven minutes, which is still incredible to me. When I first saw this, this was several years ago, I was sent out on a reporting assignment to write about a free-diving competition. You watch this person at the surface take a single breath there and completely disappear into the ocean, come back five or six minutes later. ... We've been told that whatever we have, whatever we're born with, is what we're going to have for the rest of our lives, especially as far as the organs are concerned. But we can absolutely affect our lung capacity. So some of these divers have a lung capacity of 14 liters, which is about double the size for a [typical] adult male. They weren't born this way. ... They trained themselves to breathe in ways to profoundly affect their physical bodies.