Hello, my name is James Nestor, I’m the author of *Breath: The New Science of a Lost Art*, which is about how humans have lost the ability to breathe properly, and what we can do to get it back. So one of the main questions I’ve been asked over and over again is how is it possible for humans to have devolved in such a way that we have trouble breathing? That’s not how evolution works. My answer to that is first of all, you have to understand the definition of evolution. Evolution does not mean progress. It does not mean survival of the fittest. Evolution means change. And lifeforms can change for the better or the worse. Humans today have been changing in many ways that are of no benefit to our long-term health, especially in consideration of our breathing. About 400-500 years ago if you would look at yourself in a mirror if you lived back then there is a very good chance you would have perfectly straight teeth. No Invisalign, no orthodontics, no any of that. And yet your teeth would be straight. Same thing for your ancestors five thousand years ago, fifty thousand years ago, on back. Starting around 500 or about 400 years ago humans started getting teeth that were growing in crooked and this was because our mouths were growing so small teeth had nowhere to go. They had to fight for room. They grew in crooked. What’s the other problem with having a mouth that’s too small? You have a smaller airway, which makes it harder to breathe through. This is one of the main reasons so many of us today suffer from sleep apnea, snoring, some respiratory problems, some forms of asthma, allergies, and on and on and on. We have evolved a mouth too small for our faces.

Another question I’ve been getting asked a lot is why is breathing through the nose more beneficial than breathing through the mouth? To really understand that you first have to understand the miracle that is the human nose. If you were to cut my head in half and look at what was inside as a sort of deli slicer view, you would see this massive sinuses extending down here, extending even up here. Our sinuses take up the volume of a billiard ball, so it’s this huge area of space right in the middle of our faces. When we take in air like that we force air to go through this labyrinth until it reaches our throats and then goes into our lungs. And the reason is we want air to be conditioned, heated, moistened, and pressurized before it reaches our lungs, and that’s exactly what the nose and the sinuses do. When we breathe through the mouth, we get none of those benefits. That’s one of the reasons that with nasal breathing you get 20% more oxygen in each nasal breath than you do in a breath through the mouth. Those are just a few of the many wonderous reasons why you should be breathing through the nose.

Another question I’ve been getting asked over and over again is “what the heck does chewing have to do with breathing?” It turns out that our ancestors up until around 400-500 years ago used to chew all the time. And by chewing all the time they were able to build stronger mouths. They got more bone density, they worked all these muscles out, and by having a stronger mouth and a face that grew outward they then had wider
airways, which made it easier to breathe through. If you think about the food we’ve been eating for the last few hundred years, even the food you’ve eaten today—it could be oatmeal, it could avocados, could be yogurt, could be Go-gurt, could be chocolate bars—all that stuff is soft. So modern humans are not chewing very much and because of that our mouths don’t grow properly, it’s one of the main reasons why our teeth are chronically crooked, and it’s also one of the main reasons why our airways are so small and many of us struggle just to get a breath in and out.

Another question I get asked a lot is what can I do right now to improve my breathing? And another answer that I offer quite a lot is stop it. Stop your breathing. Become conscious of it, and then slow it down. A lot of us think that the more we breathe, the more oxygen we’re going to be bringing into our tissues and muscles and organs, but the opposite is happening. When you over-breathe—when you breathe beyond your metabolic needs—you are causing vasoconstriction. You are inhibiting blood flow to areas of your body and you are making it harder for oxygen to offload into the cells that really need it. And I’ll prove that right now. Take some breaths with me through the mouth, about 10 big breaths. If you do that for a while you’re going to feel some numbness, maybe some tingling in your fingers, you might feel some lightness in your head. That is not caused by an increase of oxygen, but the opposite. To really optimize oxygen in your body and to allow your body to function most efficiently, you need to breathe in line with your metabolic needs, which for the vast majority of us means breathing less, especially breathing slowly. Now if you breathe at a rate of about 4 or 5 seconds per inhale, 4 or 5 seconds per exhale and you can extend that to 6 or 7 if you want. Through the nose, always through the nose. By breathing slowly and breathing less, you increase circulation, you increase oxygenation, you can significantly lower you blood pressure, and you can allow the systems of your body to work in harmony with one another, which saves yourself a lot of unnecessary wear and tear. That’s why this breathing pattern—this 5 to 6 seconds in, 5 to 6 seconds out—has been found to be so effective with people with asthma, anxiety, and other issues. You’re allowing your body to heal itself. You’re allowing your body to do more with less effort.

Another thing I get asked, not too often but it happens, is what is the strangest thing that I discovered while researching breathing for several years? I think one of the weirdest things was what happens inside the nose. This is an often-ignored organ that plays an essential role in our daily health. It turns out that each side of our nostrils is covered with erectile tissue. This is the same erectile tissue that covers other parts of our bodies, and I think you know what I’m talking about. And it reacts in the same way. So throughout the day our right nostril, that erectile tissue, will engorge with blood and it will become very stiff and will block air from coming in through that nostril. While it’s doing that, the left nostril will open up and will become flaccid and allow free and easy breaths in. After the left nostril becomes dominant the right nostril will become dominant, back and forth, over and over, throughout the day, every day of our lives. So researchers wondered why on Earth would our noses do this? It turns out that when we breathe through the right nostril we speed up our circulation, we increase our heart rate, we heat the body up. Right nostril breathing is associated with a stimulating effect. The opposite happens when we breathe through our left nostril. This cools the body down, it slows the blood, heart rate goes down, we become more relaxed. Also interesting to note that these
nostrils are associated with activity on the opposite side of our brain. So right nostril breathing is associated with left side brain functions, the logical side of our brain. Left nostril breathing is more closely associated with creative right side brain functions.

I hope you found that of interest. If you want to learn more you can check out my book, *Breath*, which is available now.