

Essay

Oxygen, ah Oxygen!

by Edith Cook

When your body is deprived of oxygen, it reacts in a number of ways. If the reason underlying the lack is unknown, you may embark on a wild-goose chase to puzzle out what's wrong. Until enough pieces fall into place, you'll frustrate yourself, especially when you discover physicians can't help you.

Exploring oxygen led a Japanese bioengineer to a monumental discovery. In 1974, Dr. Takuo Aoyagi developed the first oximeter, a lifesaving device that shows oxygen levels in the blood. The oximeter became commercially available in 1977; unfortunately, the medical establishment was slow to embrace the device. Today, when you step into a doctor's office for an appointment, the PA as a matter of course slips an oximeter on your finger. Sadly for me, in 2009 it wasn't so. Not that the device was unknown — I saw a school nurse use it — it's just, it wasn't on the physicians' radar.

When I think of the time, expense, and worry the absence of the little device cost me! How it would have simplified my life, if the finger monitor had been used in 2009! Only at the end of the goose chase did I figure out, until retirement I resided at sea level. From Soviet East Germany to West Germany to central France to coastal California, to Nashville, Tennessee, and Mitchell, South Dakota— all these places lie where altitude is nil.

On retirement I moved to Cheyenne, Wyoming, to help look after a kindergartener granddaughter. I also signed up for the Foster Grandparents program, which trains retirees to help teachers with students who need a bit of extra coaching. The program provides monthly training workshops that are well attended, for they are combined with generous lunches. To qualify, you submit evidence of lung- and heart health. When I sat for my electrocardiogram (EKG), the technician who read it advised that it showed some abnormalities. "You may want to have a cardiologist look at it," she said. "Okay," I answered, although I intended no such thing. Twenty years earlier a cardiologist had informed me of an existing heart murmur. "Your mitral valve doesn't close completely, which causes a murmur. It's no big deal. Lots of people walk around with a heart murmur."

Cheyenne lies higher than Denver, Colorado, which bills itself “the mile-high city,” yet symptoms of oxygen deprivation — aka altitude sickness — did not manifest right away but crept up gradually, over a couple of years. Perhaps this was because, for several years prior to residing in Wyoming, I’d spent summers with my son and his family at 8000 feet in Albany County. The rest of the year I taught at a Tennessee university that never afforded me a summer job — tenured faculty got first pick, who always seemed to need the extra money. So did I, but as the lowest peg in the academic hierarchy, I didn’t have a voice. Hence my Wyoming summers. For my granddaughter, this was a boon. Normally Amanda rose at 6:30 to be at preschool by 7:45, but when I was around, she got to sleep in. Sometimes we’d play hooky, hike around Turtle Rock in Vedauwoo or visit a library program for preschoolers. During her first summer as kindergartner I took her and a friend to the Museum of Natural History at the University of Wyoming, where the girls went gaga over the butterfly displays. Another time we visited the dinosaur exhibits.



My Cheyenne routine evolved into something like this:

On their way to work her parents dropped off their daughter at my house, usually in her PJs. I helped her get ready, we’d eat breakfast together, then I’d walk her to her school. While she was in class, I served as Foster Grandparent at another school. Afternoons we’d munch a snack and set off for the library, a playground, or a YMCA program where Amanda participated in karate and swimming. I’d work out on the treadmill until she was done, then we’d meet her parents after work in their parking lot. Some evenings or weekends I returned to the Y for lap swimming, never imagining the extra strain, combined with the thin air, could cause a heart murmur to sound like a waterfall.

All at once — the year was 2009 — it was clear that something was seriously amiss. Symptoms like fatigue, listlessness, nausea plagued me — nothing life-threatening; still, I felt as though I were dying. Had old age crept up on me? What I didn’t know then: at mile-high elevations the heart works harder to get enough oxygen into the blood. Oxygen concentration is no different at sea level than at altitude; however, air pressure up high is much lower, and the air is less dense. Hence, the number of oxygen molecules per breath is reduced. My son and his spouse both grew up in California and settled in Wyoming after professional school. They never heard of altitude sickness, nor did they struggle with it — young people’s bodies, absent any preexisting medical condition, soon adapt. Eventually

we learned that their Wyoming-born daughter at birth possessed the extra platelets required for optimal altitude-living.

Feeling glum I consulted a general practitioner who sent me to a cardiologist. The heart guru put his stethoscope to my chest. What did he hear? A murmur? A waterfall? Dr. Silva didn't say; instead, he ordered an ultrasound (echocardiogram) and reviewed it. Then he declared, "We need to repair your mitral valve. This means heart surgery." He himself performed such surgery the traditional way, he said; however, a heart surgeon in North Carolina was famous in the entire country for a novel procedure called minimally invasive.

"Mind you, it's still heart surgery," he added, "just not open heart." He explained he had known the famous man since medical school at Harvard. "You won't hurt my feelings if you prefer my colleague's method over my own," he said.

I opted for the minimally invasive technique. Silva's office forwarded the test results to the Carolina clinic, and a few days later the famous surgeon called me on the phone.

"I've looked over Dr. Silva's material," he said. "You are a good candidate for the procedure." When he heard my accent, he asked where I was from.

"I was born in Leipzig," I said. "In what was then Soviet East Germany."

"Leipzig," he exclaimed. "That's where I learned the procedure ten years ago, in the hospital affiliated with Leipzig University. I still go there about once a year to keep up."

"I lived near Leipzig for the first eight years of my life," I told him. "After that, my family escaped to West Germany." Once the Soviet system collapsed in 1990 and the divided Germany reunited, Leipzig University reclaimed its status as a world-class institution of learning.

The assistant to the famous doc scheduled me for surgery three months hence. "He doesn't have anything sooner," she said. "Sorry."

I was anxious to have the problem resolved during the summer. What if I were to find someone less famous but more readily available? It would speed up things.

I found a heart surgeon an hour away in Fort Collins, Colorado, who advertised the minimally invasive technique. He wouldn't accept Dr. Silva's records but wanted to conduct his own tests. One day in early June my son accompanied me to his clinic. Since Amanda was out of school for the summer, we took her with us.

The procedures were supposed to be completed in the morning, but the surgeon decided to try a more definitive test, which would take a couple of hours. I would be under sedation and on oxygen. Almost as an aside, the heart specialist explained he wouldn't be able to do the minimally invasive procedure just yet. "It takes two surgeons, one to monitor the process on the computer and one to work with the patient," he said, "but my partner left unexpectedly and I haven't found a replacement."

Walter encouraged me to go for the additional testing, saying he would take Amanda to lunch and a library and return later. At day's end, the surgeon's verdict was, "You don't need heart surgery. True, you have a murmur. No worries, it's minor."

"But I feel so awful rotten," I said.

"I can't help you with that. I only know, heart surgery isn't it."

"Actually, I already have a surgery date," I said testily, telling of the Greenville specialist.

"He needs to see my results," said the Colorado surgeon. "You should have them forwarded."

On the way home I griped to Walter. "I want to go through with the surgery, get it over with. I'm not sending these tests to Greenville. He said 'No' only because he can't do the surgery without his partner."

"You need to rethink this," said my son. "The Carolina man ought to see the records."

After Walter dropped me off at my house I was so sick, I threw up what little I had eaten — the clinic had provided some snacks after the tests, which had to be done on an empty stomach. I got into bed without dinner. The next day I asked that the Fort Collins results be forwarded to the famous surgeon, who called a few days later.

“This changes everything,” he said. “I cannot in good conscience operate on you. It would be unethical to perform a surgery that’s unnecessary.”

“What am I going to do? I feel utterly miserable.”

“Come in for our tests. We have state-of-the-art equipment here,” he said. “We’ll get to the bottom of this.”

The moment I stepped off the plane in Greenville, my feet seemed on home ground. When I showed up at the clinic the next day, I felt fit; not surprisingly, when a number of doctors and assistants ran tests, they found a picture of health. The famous doc was nonplussed. The next day he sent me across the way to Pulmonary, where another physician put me on a treadmill with a collar around my neck that measured pulse, heart rate, and oxygen. I passed with no problem. (You guessed it. Greenville, North Carolina, lies at sea level.)

Now I felt like a fool. These physicians must think me a hypochondriac, I thought. Yet it felt good to be well. I hoped the feeling would persist in Wyoming. It did not. Within two days I was back to the blahs.

Something is seriously wrong with living in Cheyenne, I concluded. To test the hypothesis, I visited my youngest and his family in California. Sure enough, I felt great during the week I spent there. On returning to Wyoming, the doldrums set in again.

What am I going to do, I muttered to myself, what am I going to do? Sell my house in Cheyenne? Leave Wyoming? Where would I go? I can’t retire in California; no one can afford that. And to move to Florida, where I don’t know a soul, where I’d spend my days playing Uno or Bridge with retirees?

By now it was fall. I continued with my duties but at day’s end was so wrung out, I couldn’t wait for Amanda’s parents to pick her up so I could crawl into bed. Not that the rest refreshed me. I kept hoping the mysterious ailment would disappear, but it refused to go away.

One day my son’s neighbors in Albany County invited Walter’s family and me to a “post-Halloween party.” I almost decided against making the thirty-minute drive, but what’s the use, sitting around and feeling sorry for myself? I joined my son’s family and we went over

to the neighbors' house together.

There I happened to talk with a man who loves mountain climbing. At my tale of woe he shook his head. "This doesn't sound right. You need to consult an altitude specialist. Check the internet; they're out there."

I found someone in Denver who was affiliated with the University of Colorado, but didn't have an opening until January. "Please schedule me," I said to the assistant.

On the appointed day a snowstorm was tearing through northern Colorado and southern Wyoming. Determined to keep my appointment, I traded cars with my son — he took my Prius; I drove his three-quarter-ton diesel, hoping the beast would get me to the clinic in one piece. It did.

This doctor put me on a treadmill with the kind of monitoring collar I remembered from Pulmonary in North Carolina. Within two minutes he knew what ailed me. "You are low on oxygen."

"That's it?"

"That's it."

I returned home with a prescription for a daytime oxygen tank and a machine that delivered supplemental oxygen at night. The machine set off a racket like a diesel truck, but it did the job. I never used the daytime tank at all.

You can, too, teach an old dog new tricks! After a year on oxygen, my system had adapted. No longer, the noisy machine. It's been twelve years and I haven't had to revert to supplemental oxygen, much less have I had to submit to heart surgery.

No doubt a doppelgänger is out there who did end up with heart surgery — I came within a hair of it myself — only to return with complaints of fatigue and nausea six months later. And did the experts dismiss her as hypochondriacal? I'm afraid they did.

Appeared in Issue Spring '22