

strengthening the ability of my nervous system to downregulate itself after those spikes be helpful? I could not control a honking horn, but I could to some extent manage the emotional side of the trigger. If my body managed its stress well, how carved in stone was it that my QT interval would lengthen? And if it did, by how much would it lengthen? Would the arrhythmia, if it formed, just cause a few weird beats, or would it necessarily spiral out of control into cardiac arrest?

I got the sense, from researching, that we simply didn't know yet.

The spring before I moved to Arizona, I had committed to deep and painful bodywork with a massage therapist who seemed to know where every bit of the trauma of my sick year was hiding out in my body. At his suggestion, I had committed to a weekly yoga practice. I began meditating. I received weekly acupuncture. All these are known to strengthen the parasympathetic nervous system, decreasing one's reactivity. I knew, though, that my job at the clinic was still too stressful for me to transition off the beta-blockers; in my final six months there, Danielle had abruptly left for a new job, following her partner to Salt Lake City, and I'd had to keep both our jobs afloat—working long and erratic hours—while the clinic hired a replacement. It wasn't until I got to Tucson, starting a new life that seemed to suit me so much better, that I felt like it was time. Graduate school was a lot of work, but it was largely work I scheduled myself, spending long days on a single task, never missing yoga or trail running because of work. Classes unfolded predictably, clumped on two or three days of the week, and instead of driving across a metropolitan area in a blizzard during rush hour, as I had in Colorado, I simply hopped on my bike and coasted the mile to campus, the weather always clear, if hot. I'd moved into a little 1930s adobe house with a palm tree out front and palo verde, mesquite, and salt cedar trees casting shade into the yard. The inside of the house held a graceful sort of calm, the tile an orange saltillo, desert light pouring through the windows.

I knew you couldn't just stop taking beta-blockers; you had to slowly transition yourself off. I knew, also, that no doctor would be willing to work with me on this. And so I told a few friends—enough so that if something did happen there would be no mystery—and I called my sister.

"I understand," she said. "You have to know. I already know, for myself." She'd had torsades de pointes even *on* beta-blockers. "But your case is different."

She was saying it in terms I had overlooked, at least consciously. This was about whether I needed the beta-blockers, of course. But it was also about the ICD itself. I was grasping for some kind of reassurance, some kind of indication of the ground I stood on. Without the drugs, would I be passing out all the time, taking shocks over and over? Could the defibrillator be a quiet backup in a beta-blocker-free life?

Might it even be an unnecessary appendage?

There are those who say our genes are our gods. I chose not to listen. I backed my dose down over the course of three weeks. By October, I was quietly beta-blocker free.

We walked to Julien's car in the dark, my Thermos of tea still warm in my hand, each step feeling tentative. Julien would drive me to get a milkshake—the only thing open so late on a Sunday night was the Baskin-Robbins on Speedway—where I found myself almost embarrassed to want so badly this particular type of comfort. Soupy vanilla, small black chips of chocolate. Back at my house, he sat on my cheap black couch while I called my parents.

It was a call that felt like two calls: not only that I had been shocked but also that I was off beta-blockers. That I was unsure the role this had played in the evening. My parents were calmer than I had anticipated; but then, they'd gotten good at these calls—these dramatic turns of events, their daughters thousands of miles away. Whatever reservations they had or judgments they were making would usually come later.

Although my mother couldn't resist saying, "You shouldn't have been playing soccer anyway."

I caught Christine in bed, reading in a pile of pillows. "Three times in a row," she kept saying. "Three times in a row!" Unlike everyone else, she could actually imagine what this felt like. I pictured her in a tank top, blond hair falling over her shoulders, touching the pale earthworm scar above her left breast. By then she was twenty-four

years old, the age I'd been when I first passed out, and she wept and wept, her voice growing clotted with snot and emotion. I was again forcing her to confront something she had moved on from as quickly as possible. Her first shock when the wire moved inside her heart. Her second shock while running. Her third shock in a lap pool during a lifeguard competition, after she won an event that required retrieving a dummy from the pool floor. The fourth shock—one morning in bed when her alarm went off—which had saved her life. When I told her I thought I had smelled burning, she said wryly, "I always assumed my tissues were cooked."

She told me she didn't think she would sleep that night. "I'm suddenly terrified it's going to go off. I know that's crazy. But I'd forgotten about it, and now I remember again."

"It's so awful," I said.

"Yes," she said. "Now you know what I meant."

"Why this time?" she asked, and kept asking. And then I cried again, too, for the way she had gone right to it, the most important question, the question we needed an answer for, in order to know how to live. "I can't believe I went to the amusement park," she told me. "I can't believe I went to the haunted house. I can't believe I forgot."

Sometime before midnight, Julien went home. I took a leftover beta-blocker from the bottle I kept in my nightstand, and I put myself to bed, fighting my fear of being alone with the reasoning that I'd had no actual cardiac symptoms all evening.

The next morning, I woke early and called the hospital. The pacemaker clinic could fit me in. I drove myself; somehow the risk of being shocked while driving seemed more tenable than while biking, although in every way I felt tender, uncertain about my safety.

In the narrow clinic, crowded with interrogation machines specific to the various heart-rhythm device manufacturers, the tech draped the St. Jude Medical wand over my ICD and clicked at the computer, barely looking at me. Although he knew I'd come in because I'd taken three shocks to the heart, he did not ask how I was. When I told him I no longer took my medication, he rolled his eyes, shook his head. "Take your medication," he said. "Or stop working out. Simple."

"Doesn't look like you had an arrhythmia," he said after a few minutes. "Doesn't look like there's anything wrong with the device, either. The settings are just too low." He chuckled.

"These would be good settings for a fifty-five- or sixty-year old." This did not surprise me, knowing how fiercely protective Dr. Oza had been, how afraid in the early years. And yet a bright surge of anger flooded my chest, for the continual insult of receiving care meant for someone nearer to the end than the beginning of their life.

When the electrophysiologist came in—a quiet, mousy-looking blond woman with glasses whom I hadn't met yet—she pushed the buttons to change my settings, increasing my threshold to above 210 beats per minute, a rate it was unlikely I'd hit during exercise, with or without beta-blockers. But when she finished, she never turned to me. She did not ask me how I was. She did not ask my reasoning for going off beta-blockers. She simply picked up her prescription pad, wrote a new one, and handed it to me. "You should probably make an appointment to get established sometime," she said. And walked out.

In the days after the shocks, I slept in fits. I bent over my scorched heart. I stood before the mirror, staring at my flawless skin. There were no marks. If I had been struck by lightning, my chest might have borne the thin branched burns where electricity followed water in the body. But this was an internal strike, a direct hit. No lightning flowers spread like pink trees across my breasts.

Now the anger mounted. My arms were sore from the spasms brought on by electricity, my breasts raw down deep. "It was a misfire," I kept saying aloud, to those who were there that night and those who weren't. But in truth, it was not a misfire; the device had done exactly what it was programmed to do. Even though I had been told by Dr. Oza that I would not be shocked unless my heart rate reached two hundred beats per minute for six beats or more, there had been some other box checked in my software: "if any." *If any* condition for action is met, rather than *if all* conditions are met. In theory, the ICD was advanced enough to know whether my heart's morphology was normal. It shouldn't have been confused by a heart rate pushed

high by exercise, a totally normal heartbeat unfolding at 170 beats per minute. But *if any*. My heart rate had stayed above 170 for more than three minutes, the product of a slightly out-of-shape grad student careening around a soccer field in her long underwear and old cleats, and that, apparently, was also a condition specified inside the device's settings. As I watched the guy on the other team who had fallen get up, the battery generated 820 volts of electricity, the capacitor holding it back until it was fully amassed. Then it discharged into the center of my heart.

In the weeks afterward, I stood in coffee shops expecting to be shocked; I rode my bike expecting to be shocked; I warned my first-year writing students of my condition, in case something were to happen at the head of the room. Never mind that the settings had been fixed. I could feel the sensation saved up in my tissues, the burning that would come, the sickening thump, the scream.

Now I understood there existed inside me a machine I could not control, subject to both human and mechanical errors. The part of me that never wanted the device had been reignited and burned steadily. After sepsis I had recognized, finally, that having an ICD implanted did not exempt me from death; after the shocks, I saw for the first time that the ICD could as easily kill me as save me. The promise of being a cyborg was hollow.

I researched how electricity moves through the body: how much it takes to cause permanent cellular damage, how much it takes to kill. I learned that 50 to 60 percent of patients take a shock within the first nine to eleven months of implantation. I learned how lucky I had been: 10 to 20 percent of all internal cardiac defibrillator patients experience what doctors call electrical storms—three or more shocks within a twenty-four-hour period, triggered by the electrical instability of the heart—in their first two years with the device. I learned that in one study, the mean number of shocks in such a “storm” was *seventeen*.

But I also learned that multiple shocks in tight succession nearly always mean malfunction, since one shock should be adequate to disrupt an arrhythmia.

“Multiple shocks [are] the most frightening for patients, causing

them to wonder if the device [is] really working or if the ICD [will] even kill them,” write Cynthia M. Dougherty and her colleagues in the *Journal of Cardiovascular Nursing*. And, indeed, “any shock increases the chance of cardiac mortality by two-fold. . . . Pathological studies have demonstrated fibrosis and acute cellular injury in the hearts of patients who have had recent shocks.” Even single shocks often cause significant psychological aftereffects, including heightened self-monitoring of bodily functions, uncertainty, increased dependence, reactive depression, helplessness, and post-traumatic stress disorder. Dougherty notes that “anxiety scores of those receiving ICD shocks ha[ve] been reported to be similar to those with panic disorder.” I would learn, much later, that ICD patients had committed suicide after being shocked.

The medical professionals I'd turned to the morning after had treated my experience as though it were normal, had waved me off as one who carried no wounds. But it struck me that in any other period in history, to take electricity of this kind would mean nothing short of a spiritual transformation; it would signal a sign from the gods. This was lightning from a clear sky. A dark hand reaching down to touch the heart. I couldn't stop thinking about what my insides must look like: the shining twists of burned tissue, thickening, flowers of the body cavity. The way that, when lightning hits ground, sand fuses in long fingers that reach deep into the earth.

I found myself toying with magnets, holding them in the palms of my hands. To place them over the slight rise in my skin would be the easiest way to quiet my cyborg parts, to take back control. But I knew that this was a form of ceding control, too. To allow the arrhythmia—its erratic logic and underlying threat—to inhabit my body unopposed was to lean into death as an inevitable part of the human experience. It was the opposite of my long fight to have the device implanted; it was either spiritually bold or the worst kind of nihilism.

Not long after the shocks, I received the bill for my first device check under my new graduate-student insurance. In Colorado, the device checks had cost \$30, the price of a specialist copay. The bill I received in Tucson was for \$675. I understood that my new insurance had a fresh deductible, but I understood, too—having worked the

back end of a clinic—that this was likely a coding error, a matter of which umbrella the simple ten-minute visit fell under. I called and called. Over the years since I passed out in Jackson, I'd become forceful on these calls, spitting my words, growing loud. I knew that the people on the other end were humans, far removed from the decision makers, but I knew also that they held an inordinate power over my financial life and therefore my body—over the way I stalled or not on necessary health-care visits. “A device interrogation is not a procedure,” I shouted at the phone when the billing agent told me how the visit had been coded.

“Jesus himself could not change this coding!” the woman said. Never mind that Jesus himself did not, to my knowledge, ever present Lazarus with an itemized bill.

I wanted it out of me. I dreamed of the magnets as a way of absolving myself of the requirement that I maintain it in any way, of the requirement that I prostrate myself to a system that so clearly did not care for me. I could die anyway. In the end, the bill was resubmitted, and \$675 somehow became \$275, and I put that \$275 on a credit card just before it would have gone to collection, my graduate-school stipend unaccommodating to such sudden bills. The \$275 that I paid for the pacer clinic to download a few month's fruitless observations off my ICD could, I calculated, have bought me eighteen appointments at the community acupuncture clinic that had proved essential to restrengthening my parasympathetic nervous system. There, practitioners placed a gentle hand against my wrist to listen to my pulse, asked how I was, and listened carefully. They were people with whom I had built real relationships, reciprocal and empathetic, and who lay soft blankets over my body while I rested. Arguing down the cost of the bill had saved me \$400 by one measure, but I could feel inside me the accumulation of these conversations, the quickening escalation, the full-body nausea when the bills arrived in the mail. I was paying in other ways. I knew the precise difference between having insurance and not having insurance, of course, but most of the time that difference was invisible, seemingly meaningless.

One of the central lies of modern health care, I realized then, was that it was doctors and facilities that bestowed good health upon

us. That it was my visits and payments, my total compliance, that somehow added up to health.

My life had been saved by IV antibiotics. My treatment plan during sepsis had been built by blood cultures and a battery of high-tech scans. I'd had pictures of my heart taken down my throat, which would have saved my life had the infection moved into my wires. I knew precisely the value of modern medicine. And yet I knew also that you could pump a person full of antibiotics and still lose her. There was some vitality that a body had or didn't have, allowing it to respond to treatments or not—a fire that burned or went out. That vitality did not come from doctors. Perhaps it could, but it was far from reliant on them, and it could certainly be weakened by them. Each time I sustained the injury of being assigned a treatment inappropriate for my stage of life, each time I was treated as irrational or invisible, my opinion irrelevant to my own care—each time I fought about a bill—it adversely affected my well-being.

At the same time, there were things my body knew, essential to health, that were so often overlooked. I thought about the night I'd been sent home from the ER septic, terrified, begging them not to discharge me. And how that night on the soccer field, in the midst of taking two thousand volts to my heart, some critical intelligence had told me, *You can either scream or breathe*. Without it, there would have been a fourth shock, then a fifth, maybe a sixth before the effect of the exercise wore off and my heart tipped below 170 beats per minute. I had more power over my health than I'd ever understood, and what I couldn't control would hardly be helped by my paying hundreds of dollars for visits that told me nothing.

I quietly quit having my device checked.