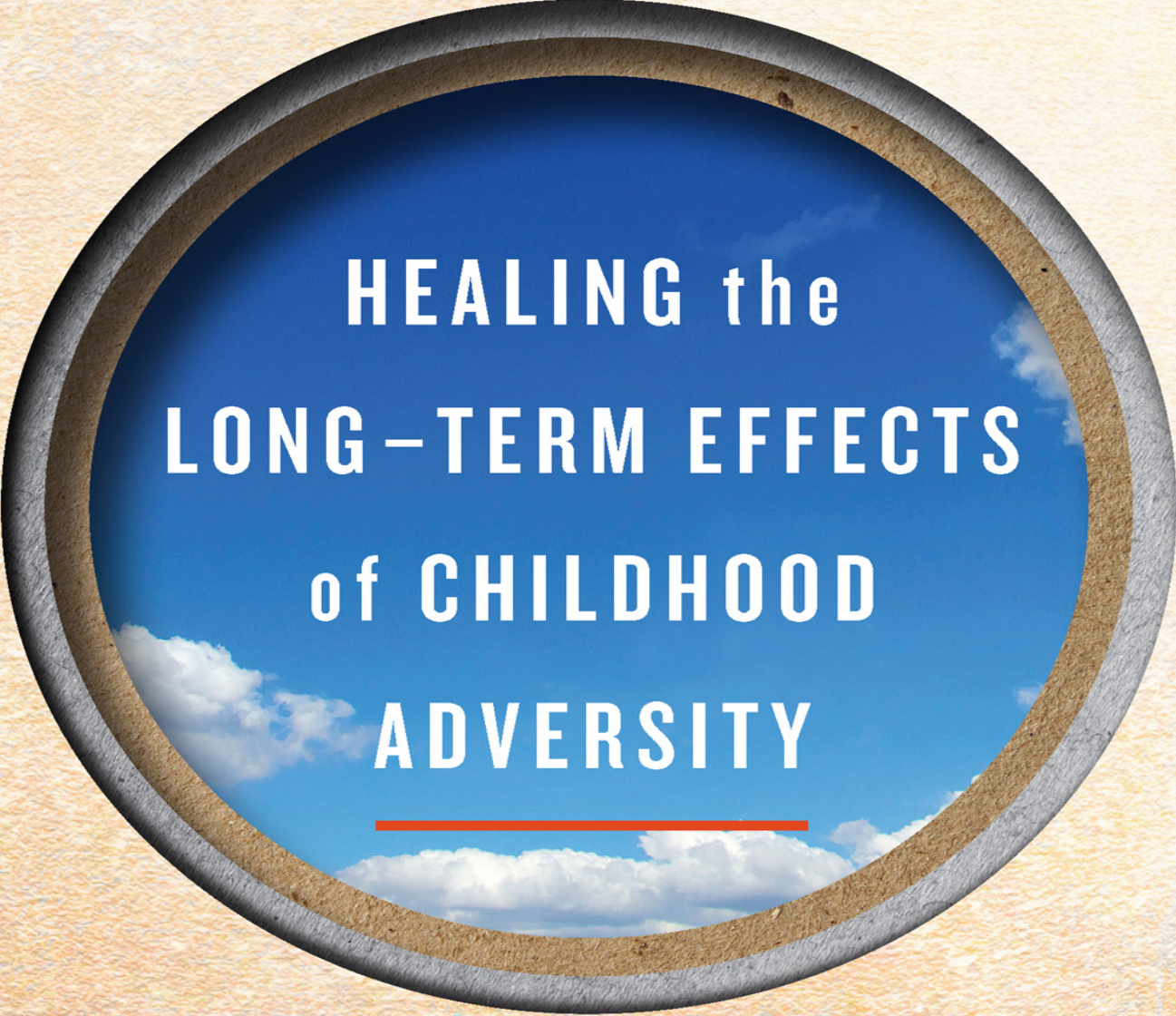


the deepest well



HEALING the
LONG-TERM EFFECTS
of CHILDHOOD
ADVERSITY

NADINE BURKE HARRIS, M.D.

the deepest well



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*To my patients and to the community of Bayview
Hunters Point.*

*Thank you for teaching me more than any university
possibly could.*

Author's Note

All of the stories in this book are true. Names and identifying details of some individuals have been changed in some circumstances to protect confidentiality. Some vignettes are retold from previous published works.

Introduction

AT FIVE O'CLOCK ON an ordinary Saturday morning, a forty-three-year-old man—we'll call him Evan—wakes up. His wife, Sarah, is breathing softly beside him, curled in her usual position, arm slung over her forehead. Without thinking much about it, Evan tries to roll over and slide out of bed to get to the bathroom, but something's off.

He can't roll over and it feels like his right arm has gone numb.

Ugh, must have slept on it too long, he thinks, bracing himself for those mean, hot tingles you get when the circulation starts again.

He tries to wiggle his fingers to get the blood flowing, but no dice. The aching pressure in his bladder isn't going to wait, though, so he tries again to get up. Nothing happens.

What the . . .

His right leg is still exactly where he left it, despite the fact that he tried to move it the same way he has been moving it all his life—without thinking.

He tries again. Nope.

Looks like this morning, it doesn't want to cooperate. It's weird, this whole body-not-doing-what-you-want-it-to thing, but the urge to pee feels like a much bigger problem right now.

"Hey, baby, can you help me? I gotta pee. Just push me out of bed so I don't do it right here," he says to Sarah, half joking about the last part.

"What's wrong, Evan?" says Sarah, lifting her head and squinting at him. "Evan?"

Her voice rises as she says his name the second time.

He notices she's looking at him with deep concern in her eyes. Her face wears the expression she gets when the boys have fevers or wake up sick in the middle of the night. Which is ridiculous because all he needs is a little

push. It's five in the morning, after all. No need for a full-blown conversation.

"Honey, I just gotta go pee," he says.

"What's wrong? Evan? What's wrong?"

In an instant, Sarah is up. She's got the lights on and is peering into Evan's face as though she is reading a shocking headline in the Sunday paper.

"It's all right, baby. I just need to pee. My leg is asleep. Can you help me real quick?" he says.

He figures that maybe if he can put some pressure on his left side, he can shift position and jump-start his circulation. He just needs to get out of the bed.

It is in that moment that he realizes it isn't just the right arm and leg that are numb—it's his face too.

In fact, it's his whole right side.

What is happening to me?

Then Evan feels something warm and wet on his left leg.

He looks down to see his boxers are soaked. Urine is seeping into the bed sheets.

"Oh my God!" Sarah screams. In that instant, seeing her husband wet the bed, Sarah realizes the gravity of the situation and leaps into action. She jumps out of bed and Evan can hear her running to their teenage son's bedroom. There are a few muffled words that he can't make out through the wall and then she's back. She sits on the bed next to him, holding him and caressing his face.

"You're okay," Sarah says. "It's gonna be okay." Her voice is soft and soothing.

"Babe, what's going on?" Evan asks, looking at his wife. As he gazes up at her, it dawns on him that she can't understand anything he's saying. He's moving his lips and words are coming out of his mouth, but she doesn't seem to be getting any of it.

Just then, a ridiculous cartoon commercial with a dancing heart bouncing along to a silly song starts playing in his mind.

F stands for face drooping. *Bounce. Bounce.*

A stands for arm weakness. *Bounce. Bounce.*

S stands for speech difficulty.

T stands for time to call 911. Learn to identify signs of a stroke. Act FAST!

Holy crap!

...

Despite the early hour, Evan's son Marcus comes briskly to the doorway and hands his mom the phone. As father and son lock eyes, Evan sees a look of alarm and worry that makes his heart clench in his chest. He tries to tell his son it will be okay, but it's clear from the boy's expression that his attempt at reassurance is only making things worse. Marcus's face contorts with fear, and tears start streaming down his cheeks.

On the phone with the 911 operator, Sarah is clear and forceful.

"I need an ambulance right now, *right now!* My husband is having a stroke. Yes, I'm sure! He can't move his entire right side. Half of his face won't move. No, he can't speak. It's totally garbled. His speech doesn't make any sense. Just hurry up. Please send an ambulance *right away!*"

...

The first responders, a team of paramedics, make it there inside of five minutes. They bang on the door and ring the bell. Sarah runs downstairs and lets them in. Their younger son is still in his bedroom asleep, and she's worried that the noise will wake him, but fortunately, he doesn't stir.

Evan stares up at the crown molding and tries to calm down. He feels himself starting to drift off, getting further away from the current moment. *This isn't good.*

The next thing he knows, he is on a stretcher being carried down the stairs. As the paramedics negotiate the landing, they pause to shift positions. In that slice of a second, Evan glances up and catches one of the medics

watching him with an expression that makes him go cold. It's a look of recognition and pity. It says, *Poor guy. I've seen this before and it ain't good.*

As they are passing through the doorway, Evan wonders whether he will ever come back to this house. Back to Sarah and his boys. From the way that medic looked at him, Evan thinks the answer might not be yes.

When they get to the emergency room, Sarah is peppered with questions about Evan's medical history. She tells them every detail of Evan's life she thinks might be relevant. He's a computer programmer. He goes mountain biking every weekend. He loves playing basketball with his boys. He's a great dad. He's happy. At his last checkup the doctor said everything looked great. At one point, she overhears one of the doctors relating Evan's case to a colleague over the phone: "Forty-three-year-old male, nonsmoker, no risk factors."

But unbeknownst to Sarah, Evan, and even Evan's doctors, he did have a risk factor. A mighty big one. In fact, Evan was more than twice as likely to have a stroke as a person without this risk factor. What no one in the ER that day knew was that, for decades, an invisible biological process had been at work, one involving Evan's cardiovascular, immune, and endocrine systems. One that might very well have led to the events of this moment. The risk factor and its potential impact never came up in all of the regular checkups Evan had had over the years.

What put Evan at increased risk for waking up with half of his body paralyzed (and for numerous other diseases as well) is not rare. It's something two-thirds of the nation's population is exposed to, something so common it's hiding in plain sight.

So what is it? Lead? Asbestos? Some toxic packing material?

It's childhood adversity.

Most people wouldn't suspect that what happens to them in childhood has anything to do with stroke or heart disease or cancer. But many of us do recognize that when someone experiences childhood trauma, there may be an emotional and psychological impact. For the unlucky (or some say the

“weak”), we know what the worst of the fallout looks like: substance abuse, cyclical violence, incarceration, and mental-health problems. But for everyone else, childhood trauma is the bad memory that no one talks about until at least the fifth or sixth date. It’s just drama, baggage.

Childhood adversity is a story we think we know.

Children have faced trauma and stress in the form of abuse, neglect, violence, and fear since God was a boy. Parents have been getting trashed, getting arrested, and getting divorced for almost as long. The people who are smart and strong enough are able to rise above the past and triumph through the force of their own will and resilience.

Or are they?

We’ve all heard the Horatio Alger–like stories about people who have experienced early hardships and have either overcome or, better yet, been made stronger by them. These tales are embedded in Americans’ cultural DNA. At best, they paint an incomplete picture of what childhood adversity means for the hundreds of millions of people in the United States (and the billions around the world) who have experienced early life stress. More often, they take on moral overtones, provoking feelings of shame and hopelessness in those who struggle with the lifelong impacts of childhood adversity. But there is a huge part of the story missing.

Twenty years of medical research has shown that childhood adversity literally gets under our skin, changing people in ways that can endure in their bodies for decades. It can tip a child’s developmental trajectory and affect physiology. It can trigger chronic inflammation and hormonal changes that can last a lifetime. It can alter the way DNA is read and how cells replicate, and it can dramatically increase the risk for heart disease, stroke, cancer, diabetes—even Alzheimer’s.

This new science gives a startling twist to the Horatio Alger tale we think we know so well; as the studies reveal, years later, after having “transcended” adversity in amazing ways, even bootstrap heroes find themselves pulled up short by their biology. Despite rough childhoods, plenty of folks got good grades and went to college and had families. They

did what they were supposed to do. They overcame adversity and went on to build successful lives—and then they got sick. They had strokes. Or got lung cancer, or developed heart disease, or sank into depression. Since they hadn't engaged in high-risk behavior like drinking, overeating, or smoking, they had no idea where their health problems had come from. They certainly didn't connect them to the past, because they'd left the past behind. Right?

The truth is that despite all their hard work, people like Evan who have had adverse childhood experiences are still at greater risk for developing chronic illnesses, like cardiovascular disease, and cancer.

But why? How does exposure to stress in childhood crop up as a health problem in middle age or even retirement? Are there effective treatments? What can we do to protect our health and our children's health?

In 2005, when I finished my pediatrics residency at Stanford, I didn't even know to ask these questions. Like everyone else, I had only part of the story. But then, whether by chance or by fate, I caught glimpses of a story yet to be told. It started in exactly the place you might expect to find high levels of adversity: a low-income community of color with few resources, tucked inside a wealthy city with all the resources in the world. In the Bayview Hunters Point neighborhood of San Francisco, I started a community pediatric clinic. Every day I witnessed my tiny patients dealing with overwhelming trauma and stress; as a human being, I was brought to my knees by it. As a scientist and a doctor, I got up off those knees and began asking questions.

My journey gave me, and I hope this book will give you, a radically different perspective on the story of childhood adversity—the whole story, not just the one we think we know. Through these pages, you will better understand how childhood adversity may be playing out in your life or in the life of someone you love, and, more important, you will learn the tools for healing that begins with one person or one community but has the power to transform the health of nations.

I

Discovery

Something's Just Not Right

AS I WALKED INTO an exam room at the Bayview Child Health Center to meet my next patient, I couldn't help but smile. My team and I had worked hard to make the clinic as inviting and family-friendly as possible. The room was painted in pastel colors and had a matching checkered floor. Cartoons of baby animals paraded across the wall above the sink and marched toward the door. If you didn't know better, you'd think you were in a pediatric office in the affluent Pacific Heights neighborhood of San Francisco instead of in struggling Bayview, which was exactly the point. We wanted our clinic to be a place where people felt valued.

When I came through the door, Diego's eyes were glued to the baby giraffes. *What a super-cutie*, I thought as he moved his attention to me, flashed me a smile, and checked me out through a mop of shaggy black hair. He was perched on the chair next to his mother, who held his three-year-old sister in her lap. When I asked him to climb onto the exam table, he obediently hopped up and started swinging his legs back and forth. As I opened his chart, I saw his birth date and looked up at him again—Diego was a cutie *and* a shorty.

Quickly I flipped through the chart, looking for some objective data to back up my initial impression. I plotted Diego's height on the growth curve, then I double-checked to be sure I hadn't made a mistake. My newest patient was at the 50th percentile for height for a four-year-old.

Which would have been fine, except that Diego was seven years old.

That's weird, I thought, because otherwise, Diego looked like a totally normal kid. I scooted my chair over to the table and pulled out my stethoscope. As I got closer I could see thickened, dry patches of eczema at the creases of his elbows, and when I listened to his lungs, I heard a distinct wheezing. Diego's school nurse had referred him for evaluation for attention deficit hyperactivity disorder (ADHD), a chronic condition characterized by hyperactivity, inattention, and impulsivity. Whether or not Diego was one of the millions of children affected by ADHD remained to be seen, but already I could see his primary diagnoses would be more along the lines of persistent asthma, eczema, and growth failure.

Diego's mom, Rosa, watched nervously as I examined her son. Her eyes were fixed on Diego and filled with concern; little Selena's gaze was darting around the room as she checked out all the shiny gadgets.

"Do you prefer English *o Español*?" I asked Rosa.

Relief crossed her face and she leaned forward.

After we talked—in Spanish—through the medical history that she had filled out in the waiting room, I asked the same question I always do before jumping into the results of the physical exam: Is there anything specific going on that I should know about?

Concern gathered her forehead like a stitch.

"He's not doing well in school, and the nurse said medicine could help. Is that true? What medicine does he need?"

"When did you notice he'd started having trouble in school?" I asked.

There was a slight pause as her face morphed from tense to tearful.

"*¡Ay, Doctora!*" she said and began the story in a torrent of Spanish.

I put my hand on her arm, and before she could get much further, I poked my head out the door and asked my medical assistant to take Selena and Diego to the waiting room.

The story I heard from Rosa was not a happy one. She spent the next ten minutes telling me about an incident of sexual abuse that had happened to Diego when he was four years old. Rosa and her husband had taken in a tenant to help offset the sky-high San Francisco rent. It was a family friend,

someone her husband knew from his work in construction. Rosa noticed that Diego became more clingy and withdrawn after the man arrived, but she had no idea why until she came home one day to find the man in the shower with Diego. While they had immediately kicked the man out and filed a police report, the damage was done. Diego started having trouble in preschool, and as he moved up, he lagged further and further behind academically. Making matters worse, Rosa's husband blamed himself and seemed angry all the time. While he had always drunk more than she liked, after the incident it got a lot worse. She recognized the tension and drinking weren't good for the family but didn't know what she could do about it. From what she told me about her state of mind, I strongly suspected she was suffering from depression.

I assured her that we could help Diego with the asthma and eczema and that I'd look into the ADHD and growth failure. She sighed and seemed at least a little relieved.

We sat in silence for a moment, my mind zooming around. I believed, ever since we'd opened the clinic in 2007, that something medical was happening with my patients that I couldn't quite understand. It started with the glut of ADHD cases that were referred to me. As with Diego's, most of my patients' ADHD symptoms didn't just come out of the blue. They seemed to occur at the highest rates in patients who were struggling with some type of life disruption or trauma, like the twins who were failing classes and getting into fights at school after witnessing an attempted murder in their home or the three brothers whose grades fell precipitously after their parents' divorce turned violently acrimonious, to the point where the family was ordered by the court to do their custody swaps at the Bayview police station. Many patients were already on ADHD medication; some were even on antipsychotics. For a number of patients, the medication seemed to be helping, but for many it clearly wasn't. Most of the time I couldn't make the ADHD diagnosis. The diagnostic criteria for ADHD told me I had to rule out other explanations for ADHD symptoms (such as pervasive developmental disorders, schizophrenia, or other psychotic disorders) before I could