





A
HIDDEN
CAUSE
OF
CHRONIC
ILLNESS

YEARS AFTER THE BRUISES FROM DOMESTIC VIOLENCE FADE, THE PHYSICAL EFFECTS CAN LINGER IN THE FORM OF SERIOUS HEALTH PROBLEMS—MIGRAINES, ARTHRITIS, EVEN GASTROINTESTINAL DISEASE. A GROUNDBREAKING INVESTIGATION

BY ALEXIS JETTER

PHOTOGRAPHED BY
JULIA FULLERTON-BATTEN

A large, dark blue, stylized letter 'S' is positioned on the left side of the page. It has a subtle drop shadow behind it, giving it a three-dimensional appearance. The 'S' is the first letter of the word 'SARAH' in the opening sentence of the article.

SARAH* WAS SURE she had left her violent past behind. Her first husband, a high-powered business executive who during their 10-year marriage had bounced her head against walls, sexually assaulted her and nearly strangled her with a dog leash, was out of her life. She'd gotten a divorce, finished college, become a successful consultant, worked

intensively with a trauma therapist and married an old friend with whom she felt safe.

Gradually, the symptoms of her previous torment eased. The residual headaches from the head injuries disappeared, although she still remembers the sound of her skull hitting the kitchen walls and floor. "It sounds like when you knock on a cantaloupe to see if it's ripe," Sarah, now 47, says with a sad laugh. There are still black holes in her memory; she can't coherently recollect the years from her mid- to late twenties, the period when the violence reached its height. But the worst of the terrors are over. "I no longer suffer from PTSD at night," she says, remembering how she would sleep in her horse's stall to hide from her then husband's drunken attacks. Now remarried, "I no longer have a hyper-startle response if my husband walks into the room behind me."

In her midthirties and wanting to start life anew, she was ready to be a mother. But for reasons her doctors initially didn't understand, Sarah struggled to carry a baby to term. After six miscarriages, a doctor finally suggested that head trauma could be a factor; neurological damage from repeated brain injuries had disrupted the hormonal balance she needed to deliver a healthy child. "My endocrine system just hardwired the violence into me," Sarah says.

That wasn't Sarah's first experience of trauma. When she was five, a friend's

father began to sexually abuse her, an ordeal that didn't end until she was seven. She recalls nothing of those years and had always hoped to fill that void in her childhood with a baby of her own. "After all the work I've done in the past 14 years, getting away from the men who were abusing me and getting my mind in a good place, I really thought I was there," she says. "But there's a whole other layer of this legacy. And it wasn't until I was safe that those symptoms started to emerge."

Domestic violence (DV) has an insidiously long half-life. Women who left their abusers five, 10, even 20 years ago and believed they had closed that chapter of their lives now face far higher than normal rates of chronic health problems, including arthritis and hormonal disorders, asthma, diabetes, hypertension, chronic pain, severe headaches and irritable bowel syndrome. As a result, these women spend nearly 20 percent more money on medical care than other women. Annual U.S. medical costs attributable to domestic violence, including years-old assaults that still cause health problems, range from \$25 billion to \$59 billion, according to a 2008 study funded by the U.S. Centers for Disease Control and Prevention. Some of the damage is from old physical injuries, some from the chronic stress of living in terror for

too long. These findings were a surprise even to researchers who are exploring the DV-chronic illness connection. "When I started this work more than a decade ago, we knew that women who experienced violence were at higher risk of developing chronic diseases like asthma but our understanding of the biological link was limited," says Michele Black, an epidemiologist at the CDC who was the lead author of a landmark 2011 report on DV-related illness. "Now we're beginning to understand why that might be. A woman in a violent relationship is often on high alert: She may be frightened about being killed or worried about her kids; if she tries to get away, she may be stalked. All that stress is really toxic. There's no organ that's immune. Your whole body is at risk."

The damage, which lingers long after the violence is over, can impair a woman's brain function, endocrine system, immune response—even her DNA. A recent study at the School of Nursing at the University of California at San Francisco found that women who have endured long periods of abuse, particularly if they had young children at the time, tend to have shorter telomeres (strands of DNA that protectively cap the ends of chromosomes) than other women. Telomeres shorten in response to chronic stress, which can lead to premature cell death. The result: Even women who left their abusers years before often have the physiological profile of women a decade older.

"We tend to think that once the violence is done, everyone's fine and the woman goes off into the sunset," says Marilyn Ford-Gilboe, a professor at Western University in Ontario who studies women who leave their abusers. "But she turns 45 and she's got all kinds of crazy health problems, and she thinks, Where did this come from? This woman has health problems that are more likely in a woman who is much older." »



THE CRUCIAL ROLE DOCTORS AREN'T PLAYING

The CDC reports that one in four women has experienced severe physical violence at the hands of an intimate partner. Every year, two million U.S. women are injured by their husbands or boyfriends; more than a quarter require medical attention. Some 1,300 die. (The U.S. has the highest rate of intimate-partner homicide among the world's wealthiest 25 countries.) Many female DV survivors who show up in emergency rooms have suffered blunt trauma to the head, face and neck, and an estimated 54 to 68 percent have been strangled; one third of the women treated for DV in an emergency room have lost consciousness at least once as a result of abuse.

Yet these life-altering injuries often go undiagnosed, because the women aren't examined thoroughly enough, aren't asked what happened to them, don't bring up the injuries with their doctor or do tell medical personnel but aren't believed. Although strangulation can cause long-term memory loss, stroke and respiratory problems, in fully half the cases it leaves no visible bruises on the neck. Other telltale signs of strangulation, such as a hoarse voice, are often dismissed. San Diego police detective Sylvia Vella, who specializes in cases involving strangulation, was once told by a victim who had lost her voice after an assault that the ER doctor said, "Maybe you should stop screaming at your husband."

Still other women, too ashamed to reveal their injuries, never seek medical attention at all. "I've worked with women survivors who live in \$750,000 houses and whose husbands work in the Raleigh-Durham Research Triangle," says Kit Gruelle, a North Carolina filmmaker and longtime advocate for DV victims. "These are women who are wealthy and educated, who are worried about notoriety in the community. They tend to keep it hidden more than women who are poor. They don't pick up the phone and call 911 because they think no one will believe them."

Indeed, women professionals are largely missing from research into DV's

long-term effects. "We know the least about women who are well educated and affluent because for them there's so much shame and guilt associated with this," says Janice Humphreys, PhD, associate dean of the Duke University School of Nursing and the main author of the study linking telomere damage to domestic violence. "These women are hard to find. Unless someone comes up to you and says, 'That's me.'"

Leslie Morgan Steiner, 48, a Harvard-educated MBA and author of the 2009 best seller *Crazy Love*, always made sure no one saw the bruises. In her early twenties, she wore turtlenecks, even in the summer, to cover up the strangulation marks left by her first husband, who flew into rages, threatened her with loaded guns, threw her down a flight of stairs and pounded her head against walls. Twice he choked her so violently that she lost consciousness. The attacks started the week before they married and lasted until she left, nearly four years later. "For my wedding, I had 10 tiny little finger marks on my neck," Steiner says. "I should have left him at that moment, knowing what I know now. But I didn't call it strangulation. The violence happened about once a week. And it was random. It wasn't tied to anything that I did or said. The worst kind of violence is when you can't see it coming and you have no control over it. He was very clever about it."

Today, despite being in otherwise robust health, Steiner says she has terrible short-term memory problems and arthritis in her shoulders, hands, wrists, joints and ankles—precisely where she sustained injuries 20 years ago. Until recently, she never made the connection between her ailments and her past abuse. "I thought it was just from getting older and having three kids," she says. "I'm so grateful for getting out of the relationship that I don't think about it in those terms. But the fear stays with you forever. The fact that I'm still afraid of running into my ex-husband even though it's been 20 years since I've seen or talked to him—that's a testament to the fact that it never leaves you. The fear gets into your bones."

It also gets into your gut, your psyche and your heart. Like Steiner, Samone,*

44, left her husband 20 years ago; he had nearly choked her to death. She, too, thought she'd gotten away clean. She finished college, went to law school, worked as a congressional aide, raised two children as a single mother and now directs a large social service agency. But Samone carries a toxic legacy from the violence: gastrointestinal distress so severe that she feels as if she's having a heart attack; borderline hypertension; and depression so profound that she once considered suicide. "The only thing that got me out of that depressive episode was knowing that my children needed me," she says. But some of the cognitive deficits from the abuse continue to haunt her. Memory gaps made it impossible for her to pass the bar exam. And when she sits down every few years to write about her experiences, the intestinal pains and depression overwhelm her. "I have done everything within my power to move on from that time in my life," she says, "and yet I feel like the abuse still has this hold on me."

Part of this is a cumulative effect," says Jacquelyn Campbell, a professor of public health at the Johns Hopkins School of Nursing and a pioneer in the field of DV research. "A woman comes in with a black eye, and nobody asks, 'Where else were you injured?' She might say, 'He slammed my entire body against a wall.' But doctors don't look beyond that for a history of injury. They don't ask, 'Have you ever been strangled by him? Had a head injury? Had a broken bone?' That's what we have to be doing so that it's not 10 years later that she's starting to complain of memory loss." Ideally, Campbell says, DV survivors should be given the same advice about traumatic brain injuries that professional athletes are: Rest. Don't get hit again. For an abused woman, of course, that's very difficult. "So as a doctor or nurse, you want to do some safety planning with her. You try to get her out of harm's way," says Campbell.

Telling a woman she's risking brain damage by staying in a violent relationship is also essential, says Gael Strack, a former prosecutor in San Diego and the cofounder of the National Family

THE SHOCKING RESULTS OF OUR SURVEY

TO BETTER UNDERSTAND the connection between domestic violence and chronic illness, *More* partnered with the Verizon Foundation on a nationwide survey. The *More/Verizon* Foundation Study was conducted from August 7 to August 12, 2013, by the market research organization GfK, among a nationally representative sample of 1,005 women over age 21. Our most important findings:

1

IF IT'S NOT YOU, IT'S YOUR SISTER, FRIEND, COWORKER.

An alarming **44 percent** of women said they have experienced abusive behavior from a partner. The categories break down like this: emotional abuse (38 percent of respondents), physical abuse (25 percent), sexual abuse (18 percent) and economic abuse (16 percent). Specific examples include **shoving** (21 percent), **intimidation by looks, actions or gestures** (21 percent), **hitting** (17 percent), **slapping** (16 percent), **choking** (11 percent), **withholding access to money** (10 percent) and **being forced to have sex** (10 percent).

2

CHRONIC CONDITIONS ARE EPIDEMIC.

Seventy percent of respondents reported having a **chronic condition**, including **lower back pain** (26 percent), **high blood pressure** (26 percent), **migraines and chronic headaches** (24 percent) or **difficulty sleeping** (23 percent).

3

ABUSED WOMEN ARE MORE LIKELY TO SUFFER FROM CHRONIC ILLNESS.

Eighty-one percent of women who said they **have experienced abuse** have a **chronic illness** versus 62 percent of women who said they have never experienced abuse.

4

ABUSED WOMEN SUFFER FROM MULTIPLE CHRONIC CONDITIONS.

Women who said they have experienced abuse **have more chronic health conditions** (2.7 conditions per person) than women who said they haven't (1.7 conditions per person).

5

WE THINK IT'S IMPORTANT TO BE ASKED ABOUT ABUSE.

Ninety-two percent of respondents said it is very or somewhat important for doctors and nurses to ask about DV during an exam. Only **2 percent** said it is not at all important.

6

BUT DOCTORS AND NURSES ARE NOT ASKING.

Only **24 percent** of respondents said they have ever been asked during an exam if they have experienced abusive behaviors. Also not asking are dentists and dental hygienists, who are in a unique position to see soft-tissue injuries inside a woman's mouth after she's been hit in the face or choked (only **3 percent** of respondents said a dental professional has ever asked them about abuse).

7

IT DOESN'T MATTER WHO YOU ARE.

You might think that women who have been abused would be more likely to be asked about DV by their doctors. Not so. In fact, the incidence is very similar to that in the general population: Only 27 percent of women who have experienced abuse have been screened for it.

WHY A COMMUNICATIONS COMPANY GOT INVOLVED

THE VERIZON FOUNDATION, the philanthropic arm of Verizon, has a deep commitment to preventing domestic violence and assisting survivors, in part because of the lifelong personal passion of its president, Rose Stuckey Kirk. When Kirk's sister was 29, she died of a chronic health condition exacerbated by the abuse she endured from someone close to her. "I decided at 15 that I would have an impact, that I was never going to allow myself to be in that situation," says Kirk. "And that I would help others." Today Kirk spearheads the foundation's extensive efforts to prevent domestic violence, including funding training for doctors and nurses and sponsoring a program to distribute free cell phones to survivors who are affiliated with participating DV agencies (visit verizonwireless.com/Hopeline to learn how to donate a phone).

Justice Center Alliance, a legal and social service agency for DV survivors and their children. "Women tell me all the time they wish they'd understood, the first time they reached out for help, the consequences of having been strangled," Strack says. "Because they wouldn't have gone back. But no one is telling them that. Because we, too, missed it for years."

Yet it's precisely when women leave that the violence often turns deadliest. Maggie,* 58, now a lawyer, was 26 when she first tried to leave her husband. But that only set him off: Armed with a rifle, he held Maggie prisoner in their

home, disconnecting the phone lines so she couldn't call for help. When she finally managed to get away, he stalked her for nine months, repeatedly choked her and abducted their two-year-old son for months at a time. In 1982, he beat her face to a pulp, even as their son, then three, tried to put his body between his father's fist and his mother's face. After throwing the boy from the kitchen into the dining room, the man bashed Maggie's head against a cast iron stove. "I was unconscious for at least 20 minutes," she says. "When I opened my eyes, he said, 'That's it, bitch. You'll never see either one of us again.'

He took my son, who did not know for two months if I was alive or dead."

The police, whom she called many times, offered no help. "Gee, lady, what did you do to deserve this?" she says an officer asked when he found her bleeding from the head injury, her eyes swollen shut, her right retina partially detached and her eye socket shattered. The damage was so severe that cerebral fluid was leaking from her nose and eyes. Yet the hospital staff largely ignored her. "'Weren't you in here last week?'" Maggie remembers the nurse asking idly as Maggie sat, unattended and bloody, floating into and out of



consciousness. “The whole attitude was that it was my fault for not leaving.”

Maggie has long suspected that the savage beating she received 30 years ago triggered the chronic bronchitis, sinus infections and asthma from which she now suffers. But she couldn't find a doctor who took that idea seriously. On the day she went to the hospital, Maggie says no doctors examined her; they just suggested she take Tylenol. And because hospital technicians didn't get a good X-ray of her sinuses, they never found the fragments from her shattered orbital bone. For decades, Maggie complained to her doctors of pain behind her eye. “But as soon as I explained how I got the injuries that I thought were the cause of the pain, they told me it was psychosomatic.”

Finally, in 2002, Maggie saw a new doctor, who ordered a CAT scan, found that bone fragments were blocking her sinuses and had them surgically removed. But the damage was done. Fifteen years after she left her husband, Maggie was diagnosed with asthma, which was exacerbated by the sinus infections. Now the combination of steroids and antibiotics she is taking simply to breathe are damaging her immune system, affecting her blood sugar levels and sending her blood pressure sky-high.

As someone who has devoted herself professionally to ending domestic violence, Maggie doesn't waste time on self-pity. And her son, now grown, has a successful career in law enforcement. But she rues the years lost to illness. “I've had 30 years of pain because of the abuse,” Maggie says. “Nobody in my family has asthma or any memory of anyone in the family having it. It's a great mystery: Why do I have it and nobody else does?” Ultimately she has come to believe that her

asthma is from “the stress, the unremittingness of what my ex-husband put me through and fear for my son.”

THE BIOLOGICAL IMPACT OF CHRONIC STRESS

No one fully understands why women who have escaped from domestic violence get sick years later.

But Bruce McEwen, a neuroscientist at Rockefeller University in New York City who is an expert on the biology of stress, says it makes complete sense that women who suffer domestic violence in their twenties are grappling, decades later, with diseases such as asthma, diabetes, hypertension and arthritis. Each of those conditions can be triggered by stress-related inflammation and a fight-or-flight response that's in overdrive. “These women have been in a state of continual alert and vigilance, which is a very appropriate

response if they're living in danger,” McEwen says. “But if the woman's situation becomes safer and she is still in a state of hyperarousal, as often happens, then you can have lasting problems. When the system that helps us survive is pushed to the limits and distorted, then it contributes to disease.”

McEwen calls that strain “allostatic load,” a runaway neurochemical and hormonal train that can be stoked for years—long after a woman makes her escape—by traumatic memories embedded in the brain. Such memories, stored in the amygdala, generate cytokines, chemical messengers that elevate inflammation in nearly every system in the body. In response, the body releases cortisol, the stress hormone. Normally the body's system of checks and balances keeps that response under control. But if traumatic memories in the brain keep sounding the alarm for years afterward and

CONTINUED ON PAGE 113

HOW DOMESTIC VIOLENCE MAKES CHILDREN ILL

FOR THE Adverse Childhood Experiences Study—which the Huffington Post has called “probably the most important public health study you never heard of”—researchers enrolled more than 17,000 middle-class, largely college-educated men and women, polled them about their childhood experiences and now have been tracking their adult health problems for 18 years. The findings have been nothing short of dramatic. Children who were abused, neglected or raised in a home where they witnessed domestic violence are far more likely to suffer in adulthood from cancer, heart disease, chronic lung disease, diabetes, obesity, partner abuse, mental

illness, substance abuse and sexually transmitted diseases.

The reason: Neuroscientists and pediatricians have found that when a child has a traumatic experience, such as witnessing an assault on his mother, the stress releases hormones that damage his still-forming brain. “The first 1,000 days of a child's life are so important in determining his lifetime health trajectory,” says Megan Bair-Merritt, MD, associate professor of pediatrics at Boston Medical Center.

Though very young children do not form conscious memories, early traumatic experiences can trigger fear responses and flood their body with stress hormones, such as cortisol, that

profoundly alter their nervous and immune systems. “Chronic exposure to stress affects how the brain develops,” Bair-Merritt says. “The stress literally becomes embedded in children's bodies.”

Samone,* 44, left an abusive marriage when her son and daughter were still toddlers. “The primary catalyst for leaving should have been the names he called me, or his throwing food in my face in a public parking garage, or pulling my hair out and punching me in the face in front of our nanny and our children,” she says. “But the thing that prompted me to say, in my head, I'm leaving in the morning, was that I did not want my son to grow

up believing that this is how men treated women, or my daughter to grow up believing this is how women should be treated.”

Now her kids are in their twenties, and Samone is grateful that her daughter has grown into a confident young woman. “But my son is struggling,” she says, fighting back tears. “The problems that he's having are the hardest legacy of that abuse. My son appears to be the mirror image of his father.” Her son was recently arrested for assaulting his girlfriend. “To leave when my children were so young,” Samone says, “and yet find that so much of that had already set in—that feels like my biggest failure in life. We need to focus on the impact on children.”

generate too much inflammation for too long, the body can become desensitized to the regulating effects of cortisol, McEwen says.

The resulting inflammation can plug coronary arteries, jack up blood pressure, damage the body's metabolic processes, inflame respiratory passageways and induce gastrointestinal distress. Meanwhile, in a one-two punch, cortisol floods the body, trying to stop the inflammation but instead disrupting sleep, promoting insulin resistance and accelerating atherosclerosis. Genetic predisposition may then determine why one woman becomes diabetic while another develops asthma or hypertension. "These women may have gotten hypertension anyway," explains Jacquelyn Campbell of Johns Hopkins. "But instead of getting it at 60, they got it at 40, and it's more difficult to control." Just to make the situation more complex: "Women who are in abusive relationships often have also been the victims of child abuse, rape or dating violence," she adds. "Many have seen their father hit their mother. They have these early pathways laid down, so when they're beaten, it triggers all of that." (See "How Domestic Violence Makes Children Ill," page 91.)

THE ABUSE THAT LEAVES NO MARKS

Psychological trauma does not have to be covered up with turtlenecks—and yet some studies show it is more likely than physical injury to generate chronic pain among women survivors. Marilyn Ford-Gilboe, the Canadian health researcher, has surveyed a group of 309 women who had left their abusers, interviewing them annually for five years. Broken bones, old concussions and sexually transmitted diseases are among their most common ailments. (Abused women have higher rates of STD transmission and cervical cancer, largely because they often lack preventive care and their abusers are frequently promiscuous.) But some of the women who suffer most from chronic pain, Ford-Gilboe says, experienced more psychological than physical abuse.

One woman in Ford-Gilboe's study, still in her early thirties, is in such agony that she spends every day lying on a couch with a heating pad. After losing her job, she stopped leaving the house altogether. "If you looked at her, you wouldn't see any obvious reason for the pain," Ford-Gilboe says. "She said the physical violence wasn't that bad. But the stalking and harassment were horrific." In addition to leaving threatening voice mails and text messages, the woman's ex-husband kept reporting her to child protective services, alleging that she was mistreating her two young daughters and insisting they be taken from her home. The fear of losing her children completely unraveled her.

Like many other abused women, she had also been assaulted as a child. It isn't surprising that old fears would be retriggered by new ones, says Bruce McEwen. The amygdala, which processes feelings of fear and anxiety, tends to weave traumatic memories together, causing them to blur. It also helps create the sensation of pain. Rewired by past stress, the amygdala can produce neuropathic pain in response to new trauma. "Some of that rewiring can be reversible when conditions improve," McEwen says. "But to reverse it, you might need the help of a therapist and medication."

MAKING THE CONNECTION AT LAST

The sheer volume and variety of health problems facing women survivors of domestic violence have made it difficult to detect clear patterns of disease formation. "If you have 10 abused women in the room, they'll have poorer health than nonabused women, and they'll have 10 or 20 different problems," says Janice Humphreys, lead author of the telomere study. "The absence of a clear line between cause and effect has led some to say, 'Well, it's in their heads.' Well, it may be in their heads. But it's also in their cells."

This message is finally starting to get through. Last January the U.S. Preventive Services Task Force, an independent panel of experts, called for doctors to screen all women of childbearing

age for intimate-partner violence. That seems like a modest proposal, but it's a great leap forward. "When I first started doing this work, doctors thought, We don't need to screen for DV. We just have to get the social workers to handle it," says Megan Bair-Merritt, MD, associate professor of pediatrics at Boston Medical Center, who studies the impact of domestic violence on children. "Now that they've seen the immunology research, they realize, We can't not do this in medicine. There's a lot of momentum to do screening and begin to think about effective interventions."

If scientists have been slow to make the connection between DV and chronic illness, abuse survivors may be slower still. "I think this is such uncharted territory that most women wouldn't think to ask their doctors about their symptoms and the possible connection to their past abuse," says filmmaker Kit Gruelle, a DV survivor who has coproduced (with Gloria Steinem) a new documentary about domestic assault, *Private Violence*, which is scheduled for release in 2014. Even Gruelle is not sure which of her maladies are rooted in violence, although some are easier to trace than others. For example, she still gets panic attacks as a result of being repeatedly strangled by her husband, now deceased. "I could feel my air being cut off," she says. "Today, on planes, I have to sit near the front when the door closes, or I panic. Once you go

through the sensation of not being able to breathe, it doesn't take much to re-trigger it. But I'm 59. Who knows what the cause of my memory loss is?"

Sarah sees the connection all too clearly. She recently coedited a collection of essays by men and women who describe their experiences with abuse and violence. Sarah told her own story in the book and says she has paid for that dearly: "When the book went to press and we started speaking publicly, my cortisol levels went through the roof. I lay in bed for months with extreme fever and migraine-strength headaches. And no doctor could find a physical cause for it." She chalks it up to going public. "I think it's the last bit of survivor in me that's afraid for my safety," she says. "But being open about what happened is what is going to put all that stuff to rest and push it into the past."

And she has even more reason to believe her past is behind her. Finally, she was able to deliver a healthy baby girl. "I guess I should have known what I was getting myself into," Sarah says now, laughing. "She's five going on six, and she's just an unbelievable kid." Sarah pauses for a moment, then breathes out. "My memory is lost at the age of five," she says at last. "I'm getting a chance to pick it up again with her." *

ALEXIS JETTER's previous feature for *More* was "The Lawyer of Last Resort," in the September 2012 issue.

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