

“I Wanted My Brain Back”

What happens when you're a PhD economist and you suddenly can't remember things or think straight? One woman's story of perseverance reveals some of the mysteries of the brain.



Photograph by Sam Kittner

IT WAS A beautiful June Saturday afternoon. Anne Forrest steered her white Acura onto Memorial Bridge. The Lincoln Memorial rose before her.

Back from a business trip to Panama, Anne had picked up her cat from a colleague at the Environmental Law Institute, a nonprofit where she worked as an economist.

After crossing the bridge, she bore right at the Lincoln Memorial and dropped down toward Rock Creek Parkway. She craned her head to the left, watching for her chance to merge onto the parkway.

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As Anne waited, a woman in an SUV hit her from behind. Both drivers got out to inspect the damage—Anne's car had a dent in the back—and exchange information. A Park Police officer took an accident report. Anne felt shaken but looked fine; she got in her Acura and drove on.

“Who knew?” she says. “But that changed my entire life.”

THE NEXT DAY, June 15, 1997, Anne went to the Texas State Society Father's Day picnic with Michael Crider, a man she was dating. Both Anne and Michael had grown up in Texas. One of their first dates, a year earlier, had been at this annual event.

Michael Crider and Anne Forrest share a laugh nearly a decade after a minor accident turned her life upside down.

Anne spent part of the picnic on the phone, trying to resolve a problem at work, but couldn't grasp what her boss was saying.

Early Monday morning, she woke up feeling cold, nauseated, and with "the worst headache I have ever had." At work, Anne would start to dial a phone number but couldn't get through all the digits. She told colleagues about her accident and her headache. They urged her to see a doctor.

The primary-care physician thought Anne had whiplash. He wanted to see her twice a week to keep her under observation.

Two weeks later, Anne was on I-270, driving to church, when her right foot and right arm went numb.

"That was my wake-up call," she says.

NEUROLOGIST LEWIS EBERLY diagnosed it as a mild traumatic brain injury.

When Anne's car was rear-ended, it started a chain reaction in her head. The brain is made up of millions of nerve cells connected by fibers called axons. When Anne's head was thrust from side to side and front to back, some axons—which carry messages between brain cells—were torn or twisted.

Traumatic brain injury has been called a "silent epidemic." Each year, the Centers for Disease Control and Prevention say, 1.4 million Americans sustain a traumatic brain injury, or TBI—often in car accidents, falls, or sports mishaps. Experts believe the number of TBIs is higher because the estimate reflects only emergency-room visits, and many patients never go to a hospital.

Three-quarters of cases are concussions or mild brain injuries. "Mild" means the patient was never unconscious or wasn't unconscious for a long time. The results can be anything but mild.

If brain injury is an "epidemic," why is it a silent one? "Because many of us have sustained a concussion, and two-thirds of individuals who sustain a concussion are back to normal by three months," says Gregory O'Shanick, medical director for the Brain Injury Association of America.

But many who sustain a head injury have problems remembering things and concentrating. Accidents can be so minor that neither doctor nor patient makes the connection. Your teenage son is having difficulty at school? Must be inattention, not that hockey injury. You're 50 and forgetting things? Must be age, not that fall off a bicycle months ago.

"Most physicians don't have a clear understanding of brain injury," says Dr. Ali Ganjei, director of the brain injury and stroke program at Inova Mount Vernon

Traumatic brain injury has been called a "silent epidemic."

Hospital. "People would have a concussion, they'd be out for an hour or so, then regain consciousness, and we'd think everything was okay. If the person later had difficulties, we never linked it to that head injury."

Susan Connors, president of the Brain Injury Association of America, is more direct: "Traumatic brain injury is the most misunderstood, misdiagnosed, underfunded public health problem our nation faces."

First Months: A Roller Coaster

Even after the diagnosis of mild traumatic brain injury, Anne, 39 at the time, was struggling.

Bill payments lapsed because she couldn't balance her checkbook. She had a hard time cooking; she'd lose track of what she was doing or make mistakes, like putting mayonnaise on the outside of a sandwich.

She'd wear the same outfit day after day; it was hard to match clothes. One day, instead of putting on her pants by sliding in her right leg first, as usual, she had started on the left. She couldn't remember what came next. She sat on the bed and cried.

When out with friends, Anne—a graduate of Yale and Duke with a PhD in economics—could no longer join in conversations about economics and politics. Anne's long-term memory was intact, but the broken pathways in her brain meant she wasn't always able to retrieve information. She had trouble finding the right word.

At work, she went on short-term disability. Her neurologist assured her that most patients are fine within six months.

Anne loved to play volleyball; she had played varsity at Yale. But her balance was shaky. She stayed away from sports.

Scared after the incident on I-270, she stopped driving. Even being a passenger in a car was hard. If a car merged into the next lane, she'd yell, "Watch out!"

"I couldn't trust my brain," Anne says. "You can imagine I was fun to drive with."

She was still having headaches. Hours might pass before she realized she had one—often until a friend, noticing her discomfort, asked whether her head hurt. Anne wouldn't think to take aspirin unless someone reminded her. She wrote herself a

note: If you get a headache, take aspirin.

She likened reading to being on a roller coaster: Information was flying past, but she couldn't absorb it. How would she go back to work if she couldn't read?

LIKE MANY WITH mild brain injury, Anne looked fine. She was high-functioning in comparison with "moderate" and "severe" brain-injury patients, who might show signs of paralysis or impaired speech.

But on a trip that summer to Mohonk Mountain House, a resort in the Catskills, friend Michele Flynn, a special-education teacher, could tell Anne was having problems with short-term memory. When Anne cut short a hike to go back to the room by herself, Michele pinned directions to Anne's shirt.

Kathy Rabin, a friend from Yale, knew Anne was having problems—she had Anne call her every day to check in. But she didn't realize the extent of the difficulties until Anne visited her in Boston. Kathy went out and left her dog in the yard, asking Anne to let the dog in. Hours later, when Kathy returned, the yellow Lab was outside the back door.

When Kathy visited Anne, who lived alone, she discovered notes stuck all over Anne's apartment. One affixed to the front door said TAKE KEYS, WALLET, CALL KATHY.

Anne couldn't remember anything new unless she wrote it down. "That summer's a bit of a blur," she says.

Her short-term memory was so bad, she says, "I could hide my own Easter eggs."

SHE SLEPT A lot, sometimes 18 hours at a time. One activity a day—going to a doctor's appointment or to a friend's—was all she had energy for.

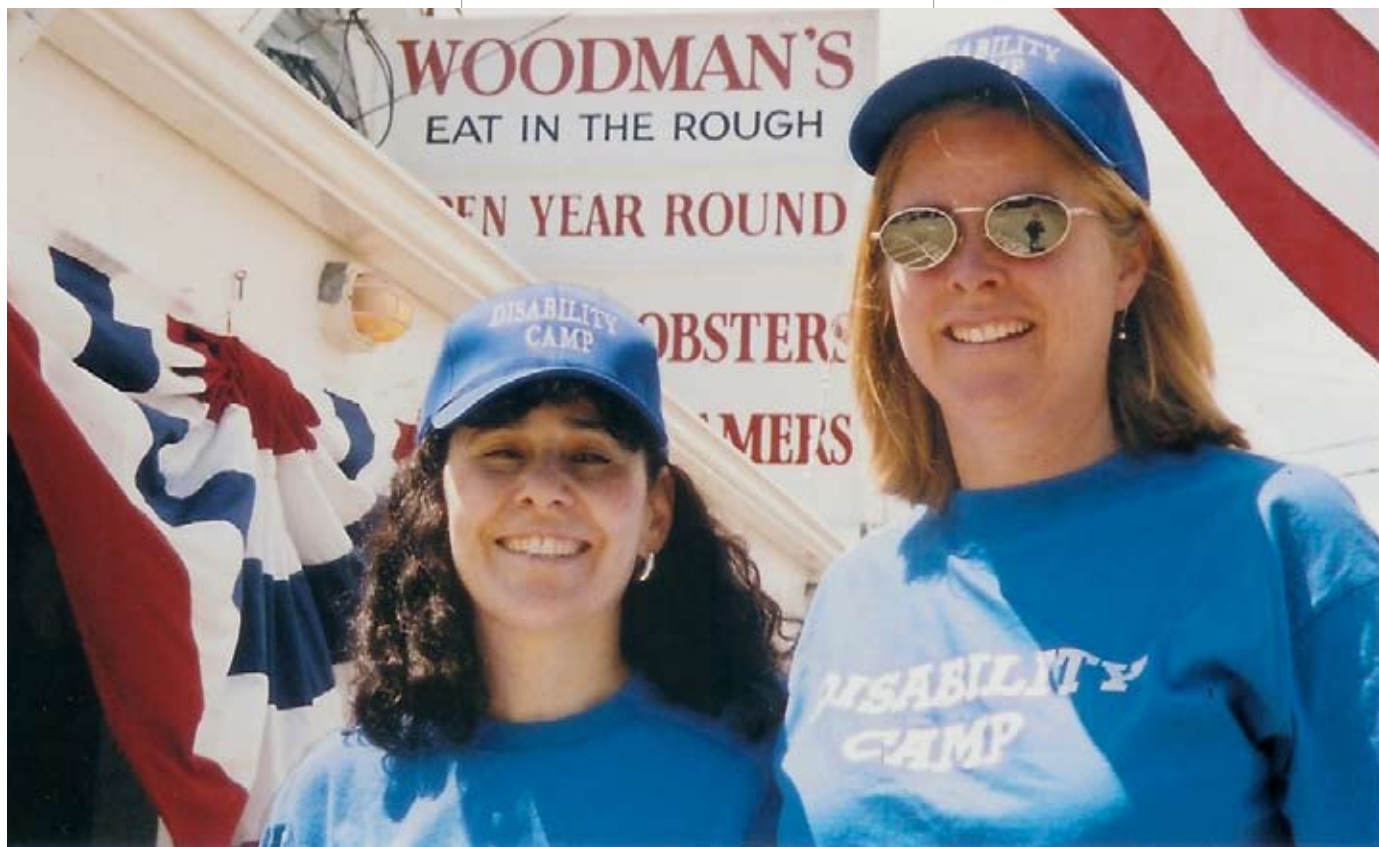
Prior to the accident, Anne was energetic, fun to be with, always making friends.

Lawrence Pratt, a former colleague at the Environmental Law Institute, recalls a time when Anne gave a cranky parking attendant a cake. "She told him, 'You are always mean to me. I don't know what I did, but I baked you a cake to see if I could fix whatever it is.' The man gave her a hug and wept."

Some friends began to wonder if Anne, who had lived and worked at a fast pace, was having a nervous breakdown. "Our thought was, 'What can we do to get Anne to snap out of this?'" Pratt says.

Friends didn't connect her behavior to the accident. "We did not have the cues that movies train us to look for," he says. "No amnesia, no head bandage."

"It was terrifying to see a person with that much talent and potential suffer from something so invisible."



Six Months Out: A Lot of Help From Her Friends

In brain injury, the frontal lobes sustain most of the damage, says the Brain Injury Association's Gregory O'Shanick.

The frontal lobes help us plan and follow through, part of executive functioning. They control concentration and problem-solving.

O'Shanick explains the damage using a computer analogy. "With the injury, somebody changed her processor from a Pentium 4 to a Pentium 1, and somebody reduced her RAM," he says. "It takes her longer to process than it used to."

Anne's mother had died, and her father and siblings lived far away, so she relied on friends like Michael and Kathy. They talked her through phone calls she had to make to doctors and insurers. They rescued her when she locked herself out of the house or took the wrong bus. After she left a stove burner on, Michael bought her a toaster oven and a rice cooker—things that shut themselves off.

Anne tried to work, putting in a few hours a week. Interns had to read her her mail. She couldn't use a computer. Depression crept in. "I wanted my brain back," she says.

For months, Anne had undergone tests, including magnetic resonance imaging (MRI), an electroencephalogram (EEG), and computed tomography (CT scan). Injury to the brain's axons usually does not

show up on CT scans or MRIs. Doctors told her the test results were fine.

"Mine is the best-studied brain in Washington," she says. Still, she says, "I couldn't do things, and no one could tell me why."

Accurate diagnosis is one of the difficulties in mild brain injury. "Individuals have been misdiagnosed with having depression or as malingerers," says O'Shanick.

"Mild-injury issues are so different," Anne says. "A lot revolves around the fact that others cannot see the injury and around trying to get back to work and life when you cannot get appropriate care." She eventually stopped using her disabled bus pass because drivers questioned why she had one.

During appointments, doctors didn't always notice her deficits. She wasn't self-aware enough to see them.

"I didn't know enough to say, 'I can't do this and I can't do that,'" says Anne. "Your brain's not working, so you can't process that your brain's not working. You have a brain injury, you think the doctor can see it."

MONEY BECAME AN issue. Short-term disability had run out, and Anne's health insurer denied her long-term disability until it knew what was wrong. She went through more tests.

Even Anne began to wonder: Was it psychological? "It's a period where you're vulnerable because you're not sure what's

wrong," she says.

The results of neuropsychological tests done by her doctors were consistent with brain injury. Still, she'd received little treatment.

"A lot of people get lost in the system," says Annandale neuropsychologist Alec Lebedun. "People can wander around for years until they find the right person."

One problem is a lack of programs and therapists trained to work with mild head injuries, says Dr. Yehuda Ben-Yishay, founder of a brain-injury treatment program at New York University Medical Center. Another is that insurers sometimes won't pay for cognitive rehabilitation or pay for a limited amount.

In recent decades, everything from air bags to advances in emergency medicine have meant that people in car accidents and other traumas are more likely to survive their injuries—and more likely to need long-term services.

Thirty years ago, says Susan Connors of the Brain Injury Association of America, half of those who sustained head injuries in a car crash died at the scene. Today, less than a quarter do.

The thing Anne needed to navigate the maze of medicine and insurance—her brain—was what was impaired.

Kathy and Anne sometimes joke about their illnesses—as with these T-shirts and caps. "We use a lot of humor," Kathy says. "It helps."

On her own, Anne had been seeing a chiropractor for headaches and neck pain. The chiropractor, Philip Shambaugh, recommended she see a developmental optometrist, Amiel Francke, after Anne complained that she couldn't read.

Twice a week, she attended small-group sessions to practice eye exercises such as following her thumb. The idea of vision therapy is to retrain the eyes to move correctly with the brain. The signals coming into Anne's brain were so distorted, life was like watching a foreign movie in which the English dubbing is out of sync—but you don't know it's out of sync.

The distortion made reading and tasks like going to a grocery store—with its bright lights and busy shelves—overwhelming. "I'd open the door to Best Buy, and she'd freeze," says Michael. He would have to lead her out.

The driver who hit Anne had the minimum insurance then required in DC, \$25,000. The insurer offered to pay Anne's bills, but friends suggested she hire a lawyer before agreeing to anything.

Ron Simon, Anne's attorney, worried that \$25,000 wouldn't be enough if Anne couldn't work again. He read Anne's policy and found she'd had coverage for underinsured drivers. But her insurance company refused to pay.

"Their argument was 'How could you have this much damage if your car wasn't wrecked?'" says Simon. "It's not apparent she's injured. They tried to label her a faker."

Anne lost the case. Even her attorney admits that he didn't see Anne's deficits at first, but they became apparent the more time he spent with her.

"You would give her something simple to do—'Let's get your medical bills together'—and she couldn't do it," he says. "She couldn't remember what to do from a meeting unless I wrote it out for her."

Two Years: Some Answers

A friend's father mentioned hearing a lecture by a New York neuropsychologist, Thomas Kay, an expert on mild brain injury. Anne made an appointment. Kay told her she needed cognitive therapy to teach her her deficits and how to compensate.

Anne called the contact Kay had given her, and in April 1999, she visited a neuropsychologist at National Rehabilitation Hospital in Washington.

The neuropsychologist said that Anne was doing too well for rehab. She suggested that maybe Anne wasn't better because she didn't want to get well. Anne was confused—it took such effort to process what the doctor was saying—that only later,

Anne started doing crossword puzzles. Without knowing it, she was doing rehab.

when telling Kathy about the appointment, did she get upset.

The neuropsychologist did tell Anne that she needed to rest more. Anne's internist at the time had told her the opposite, to "push through" fatigue.

"If you sprain your brain, one of the key things to do is rest it," O'Shanick says. "When you have axonal injury, your brain fatigues easily—that's why you see headache, dizziness, irritability."

Anne had been trying to resume a normal life but was exhausted. Some days all she had energy for was getting dressed and eating breakfast before she wanted to go back to bed. If she pushed too much, Michael says, she'd hit a wall and become nonresponsive. Once Anne began to take three naps a day, frustrating days were less frequent.

Clues of Hope: Crossword Puzzles and Movies

Anne passed the two-year anniversary of her accident, painfully aware of what doctors believed: Any recovery would occur in the first two years. She fell back on optimism to get through.

Needing something to do every day, something that felt like an accomplishment, she had started doing crossword puzzles.

She canceled delivery of the *Washington Post*, forcing her out of the house to buy the paper. It became a game: Could she remember her wallet? She often had to turn back for money.

Anne hadn't done crosswords, so it didn't frustrate her when, at first, she might get just five words. She and Kathy began to do puzzles together each day over the phone. Crosswords forced Anne to scan her memory—the words were there; she just needed prompts. The puzzles got easier. Without knowing it, Anne was doing cognitive therapy.

"Part of therapy is retraining the brain," says Melanie Reynolds, Anne's former speech-language pathologist at Inova Mount Vernon Hospital. Broken connections can regenerate, and the brain can de-tour around damage and form new paths.

"Say part of the brain used for memory is damaged," Reynolds says. "There are

other parts of the brain close to that part that we try to stimulate by doing memory exercises. Research has shown that parts of the brain that were originally designed for one function can take over for another."

The puzzles proved to Anne that she could get better.

"A brain-injury counselor told me that he thought the reason why people don't recover after two years was because they get tired of fighting the medical and disability systems and give up," Anne says. "One of the things I think about is, what if I had given up?"

ANNE LOVED MOVIES. But after her accident, when she and Michael went to see *The Horse Whisperer*, Anne couldn't watch—the screen looked like it was moving. She listened to the movie with her face buried in Michael's shoulder.

If Anne could learn crosswords, could she retrain herself to watch movies?

To start, Michael wrote down the steps for turning on the VCR so she could watch videos at home. Anne would get hung up on a plot if a detail was missing; Michael would explain when the piece eluding her hadn't been revealed yet. She relearned letting a story unfold.

Francke's eye exercises had helped her "fix" objects that appeared to be moving but were not, like movie screens. Finally, she and Michael went to *American Beauty*. She closed her eyes during the scene when thousands of rose petals flutter down because it was too stimulating. But she was in a theater.

She didn't understand *Magnolia*—but a lot of people didn't. She realized she couldn't blame everything on head injury.

One film she understood all too well was *Memento*, about a man with severe memory damage. She and Michael walked out after 15 minutes: "It was too much of my life."

A New Brain

Michael had moved to Austin for a job, and the relationship began to strain. He was frustrated that Anne's recovery was going nowhere.

Anne was just as frustrated. Although the Environmental Law Institute had hired someone to do her job, she felt the door was open if she could return. In Washington, where "what do you do?" comes after "nice to meet you," she could no longer define herself. When she visited Texas, people didn't ask what she did for a living.

So with help—Michael got her packed; a friend helped her set up an apartment—Anne decided to move to Austin, at least for a while. There she'd be not only with

Michael but with childhood friends.

"That was comforting because they knew it wasn't me. Part of the problem being in a big city is you have people who don't know you say, 'There's nothing wrong,' " Anne says.

In Austin, Anne eventually attended a support group. At meetings, she looked around at the quadriplegics and others with severe head injuries and felt fortunate but not always supported. So she formed her own support group, something she had watched her mother, Roz, do as Roz was dying of cancer.

In Washington, being with old friends who were doing what Anne yearned to do—advancing careers and starting families—had been hard. "People couldn't understand my injury," Anne says. She had been spending more time with new people she met, people who had no expectations of her. But she had been isolated from others who had brain injury and issues like hers.

With her new support network, she could joke about her situation. On one summer outing, she and friends including Kathy, who has chronic fatigue syndrome, wore T-shirts with **DISABILITY CAMP** printed on the front. On the back: **IT'S NO VACATION**.

THREE YEARS POSTACCIDENT, Anne was finally approved to start speech and language therapy at St. David's Rehabilitation Center, in the hospital where she was born.

Liz Joiner, a speech and cognitive therapist, helped Anne identify her deficits and learn to work around them. Anne couldn't organize herself, so Joiner designed a three-ring binder that Anne calls her "brain." In it, divided by colored tabs, are calendars and to-do lists. Writing something down means it's more likely to get into memory.

Anne's brain worked better when fed smaller bits of information, so Joiner retaught her tasks by breaking them down. Paying a bill might involve ten steps, including "get a pen." While an undamaged brain thinks through the steps automatically, someone with brain injury needs cues. Eventually, the steps can become automatic again.

Memories of third grade flooded back to Anne as Joiner retaught her how to compose a paragraph. She encouraged Anne to write about her injury.

But Anne had a bigger goal: Get back to work, get back to economics.

ANNE, WHO ONCE did math in her head, would have to relearn it all.

Addition and subtraction came easily. One day, as she worked with Joiner, Anne realized she couldn't divide or multiply. It

would come back, Joiner assured her.

"It was difficult to come face to face with the idea of relearning second-grade math," Anne says. "That was a big moment in realizing your life is different."

Anne no longer possessed the analytical skills for her old job. She made mistakes. Math was no longer fun.

It was a moment of acceptance but not defeat. If she couldn't immediately resume her old life, Anne was determined to find ways around the paths that were blocked.

THE NEW GOAL was any job. Anne wished to be useful again, for her days to have meaning.

Through a friend she had met John Slatin, director of the Accessibility Institute at the University of Texas at Austin, who offered her an unpaid internship. At first Anne could handle only a few hours a week.

A colleague who wrote grant proposals—something Anne had experience with—read them to Anne. Ironically, the cognitive difficulties she was having were helpful. "She'd say, 'How did you get from that sentence to this sentence?'" Slatin says. "We'd realize we had made a leap we shouldn't have made."

Anne had to explain her limitations to her colleagues; before rehab, she either hadn't recognized them or had hid them. As Anne began to write and talk about her injury, Slatin invited her to speak to a class he taught on accessibility issues.

That day, as she stood at the lectern, her modest heels were making her dizzy. She read uncertainly from her paper. She had had help from friends writing the speech, in which Anne laid out, like a microeconomist, an analysis of how the injury had affected her.

After, Anne recalls John Slatin saying, "Your speech—you still think like an economist." It was like finding something precious I thought I had lost."

At Four Years: First Dance

With help—Liz coached, while Michael set up equipment—Anne got back on a computer. At first Anne could sit in front of the screen for only ten minutes, but sending or reading an e-mail made her feel connected again.

Anne worked with physical therapist Ann Katz to improve her balance. In a session, she might fix her eyes on a target while walking or sit on an exercise ball with her eyes closed.

Anne was eager to manage her dizziness so she could get back to exercise; she had gained 30 pounds. Eventually she would work up to three-mile walks and kicking



War Wounds

The latest battlefield in treating brain injury

More than a quarter of all US soldiers evacuated from Iraq and Afghanistan to DC's Walter Reed Army Medical Center have traumatic brain injury—a percentage higher than in any prior war or conflict.

Explosions from landmines, grenades, and IEDs, or improvised explosive devices, cause the most injuries in Iraq. A blast can rain debris down on a soldier's head or throw him off his feet—movements that can shake the brain inside the skull, bruising the brain or tearing fibers connecting brain cells.

Just as air bags have helped more people walk away from car accidents, improved body armor means more soldiers are surviving attacks that once might have killed them. Better diagnosis may also account for some of the brain injury increase.

"Society has gotten more sophisticated about mild traumatic brain injury," says Dr. Deborah Warden, director of the Defense and Veterans Brain Injury Center, based at Walter Reed. "We're able to diagnose more."

In 1992, with funding from Congress, the Defense and Veterans Head Injury Program was founded. Warden says there's now a military infrastructure for recognizing and treating brain injury, and centers around the country that specialize in treating these patients, including one at Walter Reed. In the field, Warden says, there's better training too. "After an explosion, medics know to check out anybody who was exposed," she says.

In January 2006, Bob Woodruff, who had just been named co-anchor of *ABC World News Tonight*, suffered a traumatic brain injury while with the military in Iraq. He and his wife, Lee, have written a book, *In an Instant*, about his recovery. It is due out February 27.

—SHERRI DALPHONSE

When to Call a Doctor

A fender-bender, a tumble off a bike, a soccer collision—almost everyone sustains a blow to the head at some point.

Two-thirds of those who have a mild head injury or concussion recover just fine. But if you have hit your head—even if months ago—and you or your loved ones notice any of these symptoms, it may be time to see a physician:

In Adults

- Headaches or neck pain that won't go away
- Trouble remembering things, concentrating, or making decisions
- Slow thinking, speaking, acting, or reading
- Getting lost or easily confused
- Feeling tired all the time, having no motivation
- Mood changes; feeling sad or angry for no reason
- Sleeping a lot more or having a hard time sleeping
- Feeling lightheaded or dizzy or losing balance
- Nausea
- Increased sensitivity to light, sound, or distractions
- Blurred vision or eyes that tire easily
- Loss of sense of smell or taste
- Ringing in the ears

In Children

- Feeling tired or listless
- Being irritable or cranky; a baby may not stop crying or cannot be consoled
- Changes in eating
- Changes in sleep patterns
- Lack of interest in favorite toys or activities
- Changes in performance at school
- Loss of new skills such as toilet training
- Loss of balance, unsteady walking
- Vomiting

You can find more information from the Brain Injury Association National Help Line, 800-444-6443 or biausa.org.

Source: Centers for Disease Control and Prevention

around a soccer ball.

For now, she had a more immediate goal. Anne and Michael had gotten engaged. While friends pitched in on planning the wedding and Michael handled details like the cake, Anne worked with Katz on how to dance without getting too dizzy.

Although marriages and relationships often fall apart after one partner suffers a brain injury, this one had survived.

Michael had been married once before. “Going through a divorce taught me to re-evaluate myself in relationships. The communication in my first marriage wasn’t that good,” he says. “I saw a lot of things in Anne I really liked. In figuring out the injury with her, figuring out the rehab process with her, it helped me understand what she was going through.” They had to listen to each other and discuss their needs. It was the most fundamental communication, and it built an intimate bond.

In October 2001, Anne and Michael took to the dance floor as a band played the George Jones song “Walk Through This World With Me.” Anne focused her eyes on the horizon as the band sang, “Walk through this world with me, go where I go. Share all my dreams with me, I need you so.”

IN 2002, MICHAEL accepted a job at America Online, and he and Anne moved back to Washington. The challenge of a new routine caused her to backslide. Exhausted, she spent a lot of that summer watching *Law & Order* reruns. She had seen most of the episodes before and would entertain herself by trying to remember the plots.

Anne visited her old neurologist, who surprised her by recommending further rehab, at Inova Mount Vernon Hospital. Blue Cross Blue Shield agreed to pay as long as there was demonstrable improvement.

Rehabilitation for brain injury isn’t necessarily about getting back to normal; it’s about establishing a new normal. Life had gotten more manageable because Anne knew her limitations and compensated. She might shop online or make strategic strikes in stores. She listened to books on tape. If a restaurant menu was unfamiliar, she might order by randomly pointing.

Because she was rationing her energy—and because her cognition was improving—she could handle more tasks in a day. What she really wanted back was the ability to handle more than one thought in her head. She had trouble at stores and restaurants because of distractions like noise and movement. A healthy brain filters out what’s not important so you can focus; Anne’s doesn’t filter well.

Occupational therapist Ivy Bishop-St.

Ange introduced new exercises. Anne had to try to keep the room from spinning while walking on a treadmill, swinging her arms, moving her head, and listening to the radio.

At AOL’s Christmas party, Anne was startled to realize she was having a conversation in a noisy room. She hadn’t done that in years: “I was able to think about what I was saying, not just nod.”

Brighter Days

Problem-solving was still a challenge. In Austin, Anne once vacuumed the same carpet day after day, not understanding why it wasn’t coming clean. When Michael got home from a trip, he saw there was no bag in the machine.

Her six months of rehab at Mount Vernon over—insurance would cover only so much (“It’s hard to reconcile that I am leaving the hospital but I am not well,” she would later say)—Anne was at her computer one day when her mouse stopped working. She found a new battery, replaced it, and went back to what she was doing. Then she realized she’d solved a problem.

One recent Christmas at her cousin’s house, Anne found herself following conversation, even though ten people were talking back and forth. Everyone in the room looked more in focus. She asked her cousin if the dining room had been painted. It hadn’t. To Anne, everything was clearer and brighter.

IT’S A SUNNY day, and as Anne and I take seats at an outdoor cafe, she says: “I’ve forgotten everything we talked about.”

This is early in my reporting, and we’ve exchanged a phone call and a few e-mails. Anne points out the places in her organizer where she wrote down reminders about our lunch, and shows me the bag she carries the binder in. “I got a nice-looking . . .” —she picks up a black bag and studies it for a few seconds—“purse.”

While most of us don’t think about how our brain works, Anne is keenly aware of hers. She knows that answers to my questions might take days to percolate to the surface. It’s something she’s learned to live with.

Anne still can have trouble retrieving words, especially when she’s tired. She might call eggs “waffles.”

“We all have times we can’t finish a thought,” Michael says. “It happens all the time with her.” He admits that it can be frustrating if Anne, grasping for a word, starts her thought back at the beginning: “I try not to do what couples do and finish each other’s sentences.”

It probably helped that Anne learned

to do crosswords; she and Kathy now do the *New York Times* Friday and Saturday puzzles, the toughest. Anytime you learn something new, it builds and strengthens neural pathways. Anne now also does sudoku.

Seven Years: Back to Work

Anne and her cousin Sandra plucked clothes off the racks at Ann Taylor—a pink

blouse, a pink-and-white skirt, black pants. Anne hadn't worked in a Washington office in years. She wondered: What did women wear?

This was spring 2004, after she had landed a volunteer position at the Brain Injury Association of America in McLean. Once a week, Anne takes a bus there from her house in Arlington.

Through BIAA as well as the Speaker's

Bureau of Brain Injury Services, another nonprofit, she's made speeches at hospitals and universities. While Anne might need help writing speeches, many of which have been directed to neuropsychology students and rehabilitation specialists, her message comes through: Do not give up on brain-injury patients.

She wants people to understand, she says, "how tough a battle those of us with

Improving Your Memory

Can eating berries or dancing keep your mind sharp?

While many of the exercises Anne Forrest used to improve her memory are designed for brain injury, some of the strategies are ones anyone can use to keep mind and memory sharp.

To remember more, pay attention more.

"That's one thing I notice a lot," says Melanie Reynolds, Forrest's former speech-language pathologist at Mount Vernon Hospital. "I have a friend who never remembers anything because she never pays attention."

When a stranger is introducing himself, Reynolds suggests reminding yourself to pay attention. Repeat the name and, if you can, relate it to someone you know.

What about boosting brainpower long-term?

Doing word games, puzzles, and other mental exercises—taking a course, reading, attending plays—can provide insurance against impaired memory and dementia later in life. That's because mental activity stimulates new pathways among brain cells. As the brain declines due to age, you've got more of a safety net.

"You can maximize the likelihood of maintaining excellent brain function by keeping the brain active and maximizing your cognitive reserve," says Dr. Paul Aisen, a professor in the departments of neurology and medicine at Georgetown University, who in his spare time plays chess and tennis.

This does not mean that a crossword puzzle a day keeps Alzheimer's away: Genetics, environment, lifestyle, and education play a role.

"People should not be misled into thinking if they do crossword puzzles, it will solve all their problems," says Dr. Barry Gordon, professor of neurology and cognitive science at Johns Hopkins University. Instead, have a broad range of interests. Gordon and his wife like to browse in less-

familiar sections of a bookstore—science fiction, say—to pick up books on subjects they don't know.

Physical exercise is key, too. Aerobic activity increases blood flow and oxygen in the brain.

Dr. Gregory O'Shanick, medical director of the Brain Injury Association of America, cites a study in which world-class chess players were divided into two groups: One group exercised, the other didn't. Those who exercised won more.

There is also evidence that certain foods may help the brain. Deficiencies of vitamins B-12 and B-1 and folic acid have been linked to cognitive impairment—so, theory goes, foods rich in these nutrients may protect the brain. "Antioxidants may also be important," Dr. Aisen says, "and there is a growing body of evidence that suggests fish oil may be important."

The Alzheimer's Association suggests eating more

- antioxidant-rich vegetables such as spinach, kale, brussels sprouts, broccoli, beets, red bell pepper, onion, corn, and eggplant,
- dark-skinned fruits including raisins, blueberries, prunes, blackberries, strawberries, raspberries, plums, oranges, red grapes, and cherries,
- cold-water fish including halibut, mackerel, salmon, trout, and tuna, and
- nuts, such as almonds, pecans, and walnuts.

Dr. Aisen cautions against taking supplements with labels such as "brain health." "We don't know exactly what they contain," he says. "There's insufficient evidence to support such supplements."

SOCIAL INTERACTION IS another boost to brain health. According to the Alzheimer's Association, studies have found that activities like dancing, which combines physi-



Foods rich in antioxidants, B vitamins, and folic acid may help the brain.

cal and mental challenge along with companionship, have the greatest benefit.

Dr. Gordon, who has written books on improving memory, says that it's not the activity that matters but doing something to keep mind and body active.

"The best thing to do is something that interests you because you'll keep at it and push yourself," he says. "Use it as an excuse to pursue a dream, a hobby."

Something as simple as eating or brushing your teeth with your opposite hand now and then can rouse the brain.

"What you're doing is forcing the brain to do something novel. You're recruiting different pathways," says Dr. O'Shanick, who plays board games with his wife and five children and recently took up horseback riding. "Even something like driving or walking to work a different way triggers increased activity in the brain."

If you're worried about your memory, Dr. Gordon says, you're probably okay.

"In general, the person who comes in complaining about memory problems," he says, "is the person least likely to have a problem."

—SHERRI DALPHONSE

brain injury are fighting just to get through the day.”

She also provides support and advice to a woman who suffered a brain injury. “Many head-injured people get upset to find that there’s such a disconnect between what they think the doctor can do and what they actually do,” she says. “They get bitter. That gets you nowhere.”

Those close to Anne are not surprised she’s driven to help others; that part of her never changed. “Anne is the kindest person that I know,” Michael says.

Anne has accepted that she’ll never work as an economist again. She loved economics because it used her brain to teach people better ways of doing things. She feels she’s doing that again.

Carol Salzman, a friend and her internist, says she understood her own sister’s brain injury better because she’d read Anne’s speeches. “I was glad to have this information to tell my sister she wasn’t nuts,” says Salzman, who is now tuned in to the subtle changes mild brain injury can cause.

Last year—almost nine years postaccident—Alec Lebedun, impressed by the progress Anne had been making, got her into speech-language therapy at Inova Fair Oaks Hospital. “The Inova system has an excellent reputation in terms of brain in-

jury,” Lebedun says.

“They see that even though I seem high-functioning, I need help,” Anne says. “The difference between struggling on your own to keep rehabilitating and having someone say, ‘No, you should do this,’ is huge.” Insurance paid for eight months of therapy.

Today: In the Driver’s Seat

In the parking lot of Bishop O’Connell High School in Arlington, Anne sits behind the wheel of a gray Acura TL. She inches the car forward, no faster than ten miles an hour.

At Mount Vernon, Anne’s occupational therapist had worked to rebuild her eye-foot and eye-hand coordination until Anne’s responses were good enough to drive. It would take more practice for her to remember things like signaling a turn, which involves multitasking and planning.

With Michael at her side, Anne coasts around the parking lot. Her first outing lasts ten minutes, and even though she would be exhausted after, for Anne, those are ten thrilling minutes.

While she continues to practice driving, friends and neighbors are also showering her with advice on another path: moth-

erhood. She and Michael are hoping to adopt a baby from Guatemala.

“It will push on some of my symptoms. I’ll have to take my own time-outs,” Anne says. Erin Nolan, her speech-language pathologist at Inova Fair Oaks, prepared Anne with weeks of sessions, including planning and storing meals. “With memory problems, putting things in the freezer meant they never came out, because I would forget they were there,” Anne says.

There still is much Anne cannot do that once came easily. Last summer, she got back on a bicycle again, the first time in years, and rode for 20 minutes. She would like to work more but gets tired—although acupuncture has boosted her energy.

“The healing process isn’t ever over with brain injury,” says Nolan. “You might not see any change for years, then things start to improve. It’s the mystery of the brain.”

That’s the thing about brain injury: There’s a lot of uncertainty.

“There’s a long period of time where you don’t know who you are, because your brain’s not working and your brain defines a lot of who you are. You have to refind yourself,” Anne says. “If you just look at the dark clouds, you won’t move forward. For years I didn’t feel my life was meaningful. It’s meaningful now.”

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