

The SCARY YOUTH *about* women and strokes

If you take birth control pills,
get salon haircuts,
or go to the chiropractor,
you may be
raising your risk.
What women in their
30s, 40s, and 50s
need to know—
NOW.

By Ginny Graves

ILLUSTRATION BY ANDY POTTS

In April of 1993, Britt Harwe, of Wethersfield, Connecticut, was in a good place in her life. She was 26 years old and married to a wonderful guy, and they had a daughter, Caitlin, who was just about to turn 2. She had a job she loved, too. As a customer-service representative at an insurance agency, she'd spend long hours with a phone cradled between her neck and shoulder. So when she woke up one morning with an extremely painful stiff neck, she wasn't surprised—just a little concerned. "I wanted to get it taken care of right away because I didn't know if I'd be able to work or take care of my daughter," she says.

Unfortunately, her doctor couldn't see her for a week, so, on a friend's suggestion, Harwe called a local chiropractor. He agreed to see her in his office later that day. During the appointment, the chiropractor explained that in rare cases a patient will have a reaction to treatment. "I remember thinking, 'What kind of reaction?'" Harwe says. "But it didn't sound like a big deal."

The chiropractor put heat packs on Harwe's neck. And then he did a cervical adjustment, a common chiropractic treatment for neck pain, holding her head in both hands and turning her neck quickly but gently to the right and to the

left. Although the pain didn't go away, Harwe did get some temporary relief, so she scheduled another appointment for a few days later. This time, when the doctor turned her head to the left, she felt nauseated and heard "the sound of the ocean in my head," she remembers. The chiropractor quickly did an adjustment in the other direction, then asked Harwe to sit up. She couldn't—the whole left side of her body felt limp and numb—and she couldn't speak, either.

"My mind was racing, and I was trying to tell the doctor what was wrong, but I couldn't get any words out," she says. "It was the most terrifying experience of my life."

The chiropractor asked his receptionist to prop Harwe up, then he called 911. Harwe remembers the doctor telling emergency crews that she'd had a "reaction" to a treatment, but she recalls little else of the next few days, which she

spent in an intensive care unit as doctors tried to figure out what was wrong. Finally, five days after her chiropractic visit, a magnetic resonance imaging (MRI) scan revealed that the left vertebral artery in her neck was pinched, which cut off blood flow—and life-sustaining oxygen and nutrients—to her brain. Harwe had suffered a stroke.

"I was shocked," she says. "I didn't know you could have a stroke from chiropractic treatment. And I didn't know you could have a stroke so young."

Harwe isn't the only one unaware of the risks. Though 100,000 women, middle-aged and younger, will have a stroke this year, some doctors—and far too many women—still think of strokes as an affliction of the elderly or of men.

Truth is, a woman between the ages of 45 and 54 is more than twice as likely as a man to have a stroke, according to recent research from the University of California, Los Angeles. What's more, even though the most common cause is high blood pressure, women are disproportionately affected by some surprising and far-less-well-known causes: chiropractic neck adjustments, pregnancy, oral contraceptives—even getting a salon hair wash, or riding a roller coaster.

"You can't go through life avoiding everything that carries the slightest risk, but strokes are extremely serious," says Shirley Otis, MD, a neurologist at Scripps Clinic Medical Group in La Jolla, California. "It's important to be aware of what may be dangerous."

A TWIST OF FATE

There are two main types of stroke. The *hemorrhagic* type occurs when a blood vessel bursts in the brain. And an *isch-*

emic stroke happens when a blood vessel that brings oxygen to the brain is diminished or completely cut off, usually due to a blood clot or fatty deposits in the arteries around the brain; this is a dire situation because brain cells deprived of oxygen can start dying within minutes. In about 10 percent of stroke victims younger than 60—and, for unknown reasons, in more women than men—a blood clot forms because of a tear in an artery. This problem can occur spontaneously or as the result of physical trauma, like a car accident, a rough roller coaster ride, or a chiropractic neck adjustment, although the latter is a matter of fierce debate between neurologists and chiropractors. "Even if neck adjustments cause strokes (and no one can say for sure that they do) the risk is low—1 per 100,000 chiropractic patients who receive multiple adjustments," says chiropractor William Lauretti, an assistant professor at New York Chiropractic College, and a spokesman for the American Chiropractic Association.

Wade Smith, MD, PhD, a professor of neurology at the University of California, San Francisco, agrees that the risk of having a problem from a chiropractic treatment is low, but he believes the risk is very real. In a study he conducted, he found that people who had strokes caused by a torn artery were more than twice as likely to have had a neck adjustment in the month prior to the stroke than those whose strokes weren't due to a tear. "The risk was statistically significant," Smith says.

To be on the safe side, anyone who has had a vertebral-artery tear shouldn't have a neck adjustment. And anyone who has headaches or dizziness, or experiences numbness, tingling, or weakness in limbs—all potential signs of underlying problems in the vertebral arteries in the neck and head—should talk to a doctor about whether a neck adjustment is safe for them.

"I have recommended chiropractic work for some patients with neck pain," Smith says, "but only if the chiropractor has formal training and doesn't use rapid, forceful movements to crack the neck." Even so, he adds, he has never considered seeing a chiropractor for his own occasional neck pain. "I'd never be able to explain to my family why I ended up disabled because of an elective procedure," Smith says.



Know the signs: Marilyn Noonan, 47, of La Jolla, California, suffered a torn carotid artery during a salon shampoo. The first sign of a problem? One of her pupils was bigger than the other.

Stroke alert

Speed is critical when treating stroke. Here's what women need to know.

Stroke symptoms typically last more than an hour, but sometimes they can be very brief—signs of a transient ischemic attack (TIA), or "ministroke." A TIA occurs when a blood clot temporarily clogs an artery, diminishing blood flow to the brain. Although TIA's usually last fewer than five minutes, they increase the likelihood of a true stroke, which requires prompt medical treatment.

That's why women need to know their symptoms—and they sometimes differ from men's. You need to watch out for sudden ...

- numbness or weakness of the face, arm, or leg
- confusion or trouble speaking, or understanding
- trouble walking, dizziness, or loss of balance or coordination
- difficulty seeing in one or both eyes or pupils of different size
- severe headache with no known cause
- inability to smile or swallow

THE SALON RISK

The risk of suffering a torn artery at a beauty salon is even more remote, but Marilyn Noonan, 47, of La Jolla, California, is proof that it can happen. Two years ago, she was getting ready to go to a dinner party when she looked in the mirror and noticed that one pupil was much larger than the other. "I'm in the insurance business and had just been to an educational seminar on strokes, so I knew that pupil asymmetry wasn't good," she says.



5 ways to prevent a stroke

The link between high blood pressure and strokes is strong. Here's how to lower it.

People with healthy blood pressure—less than 120/80—have about half the lifetime risk of stroke as those with high blood pressure, or hypertension. “High blood pressure damages blood vessels throughout the body, making them more susceptible to developing clots,” says Lewis Morgenstern, MD, director of the University of Michigan Stroke Program.

Women over 55 are significantly more likely than men to develop hypertension, perhaps because they've lost whatever protective effects estrogen

might have provided. Here's how to keep your blood pressure in the safe zone.

1 Exercise regularly. In a study of more than 47,000 men and women in Finland, moderate and high levels of physical activity were associated with lower stroke risk. Exercise helps reduce blood pressure by making the heart stronger. And the stronger the heart, the less effort it takes to pump blood around the body—so the lower the blood pressure. Physical activity also can help decrease the risk of developing diabetes and control cholesterol levels, both of which up your chances of a stroke.

2 Drink moderately. Experts aren't clear on why alcohol raises blood pressure and increases stroke risk, but research from the University of Cincinnati has shown that having more than two drinks a day is associated with *subarachnoid hemorrhage*, a particularly deadly type of stroke caused by the rupture of a blood vessel on the surface of the brain; it tends to strike premenopausal women.

Likewise, Tulane University researchers reported several

months ago that the risk of ischemic stroke rises with greater alcohol intake.

3 Control your weight. Gaining even 22 pounds after the age of 18 is associated with increased risk of stroke.

4 Eat a healthy diet. Diets high in saturated fat and cholesterol can raise blood-cholesterol levels. “Cholesterol tends to adhere to the arteries, and blood tends to stick to those spots, increasing the risk of clotting,” Morgenstern says. Excess sodium intake can contribute to high blood pressure, too. Eating five or more servings of fruits and vegetables a day may reduce stroke risk.

5 Stop smoking. Stroke risk decreases significantly two years after quitting and is at the level of nonsmokers by five years, research shows. In fact, recent data from the Women's Health Study showed that women who smoke a pack a day are at increased risk of hypertension. What's more, the nicotine and carbon monoxide damage the cardiovascular system, leading to a higher risk of stroke.

Marilyn felt fine, but she called a neurologist friend anyway. The second question he asked her was, “When was the last time you had your hair done?” Her answer: Just a few hours ago. “He said, ‘Marilyn, you need to get to the hospital right away,’” she recalls.

An MRI revealed a tear in her carotid artery. Fortunately, a large clot hadn't yet formed, so Noonan's doctors put her on blood-thinning medication for six months until the artery healed. “She was lucky,” says Shirley Otis, MD, her neurologist. “She could very easily have had a stroke.”

The most likely cause of the tear—tilting the neck back too far during a salon shampoo—is simple to avoid, Otis adds. “Make sure there's a towel or some other support under your neck so you don't have to tilt so far,” she says.

Researchers at the University of Medicine and Dentistry of New Jersey reported several years ago that, while tilting your head backward into a sink while shampooing can alter blood flow to the brain, using a support minimizes the problem.

THE HIDDEN THREAT OF HORMONES

Dina Pagnotta, 36, of New York City, was taking a continuing education class one day in 2002 when she noticed a strange feeling. “It was like I'd just gotten a shot of Novacaine,” she recalls. “The whole left side of my body felt numb, and when I tried to take a drink of water, I couldn't swallow.” A friend called 911. But at first the emergency

(Continues on page 196)



(Continued from page 147)

room doctors were puzzled by her symptoms. Although Pagnotta had a pre-existing heart condition, at only 30 she was too young to be a classic stroke victim. "It wasn't until they did a full health history and I told them I was on birth control pills that they started taking the idea of stroke seriously." Her symptoms disappeared within two hours, but tests revealed that Pagnotta had indeed suffered a stroke—most likely due to the oral contraceptives she'd started taking three months before.

Even low-estrogen pills may increase your risk of stroke, according to the American Stroke Association, perhaps because estrogen causes blood to clot more easily. The higher the level of estrogen in any contraceptive—pill or patch—the greater the risk. (Progestin-only patches probably are not related to strokes.) Your risks also go up if you smoke or have migraines with visual symptoms (called an aura). "And if you smoke, have migraines, and are on the Pill, you have 34 times the risk of someone with none of those risk factors," says Thomas Hemmen, MD, a neurologist at the University of California, San Diego, Stroke Center. "If you're going to take the Pill, you absolutely should not smoke."

Pregnancy, too, causes cardiovascular changes, complications such as high blood pressure and gestational diabetes that can contribute to strokes. "The



Get the facts: Dina Pagnotta of New York City had a stroke when she was 30. Doctors decided that it was most likely due to the estrogen in her oral contraceptives.

risk is greatest in late pregnancy and the first six weeks postpartum," says Nerissa Ko, MD, assistant professor of neurology at the University of California, San Francisco.

In 2006, researchers at Duke University reported a rate of about 34 strokes for every 100,000 births, higher than previously thought but still fairly low—unless you're one of those unlucky 34. "If you're thinking about getting pregnant, it makes sense to minimize your risk by getting your blood pressure and weight under control beforehand," Ko says.

GET CHECKED OUT

Women are more likely to die of stroke than men, possibly because doctors are trained to look for typical signs, like slurred speech and paralysis. But women often have different symptoms, like sudden pain on one side of the body, loss of consciousness, or disorientation. (Turn to "Stroke Alert," page 146, so you'll know what to look for.)

The best way to diagnose stroke, according to a recent study by the National Institutes of Health, is with magnetic resonance imaging (MRI), which was found to be twice as accurate as computed tomography (CT) scans at distinguishing stroke from other problems. But because the single most crucial factor in treating strokes is speed (a clot-busting drug called tissue plasminogen activator, or tPA must be given within three hours of the onset of symptoms), every minute spent in diagnostic limbo could mean the difference between complete recovery and long-term disability, or even death.

A doctor can deliver tPA directly to the clot through a catheter, or he can sometimes pull the clot out of the brain using a catheter. But the more time that passes, the more disabled you're likely to be. "Only 2 percent of people who could get tPA do, because either doctors are slow to diagnose stroke, especially in younger women, or patients are slow to seek treatment," Wade Smith, MD, says. "As a result, women—and their partners and even their children—need to know the signs

of stroke so they can discuss the possibility with their doctors."

Another treatment is minocycline. According to a recent report from Israeli researchers, people treated with this drug (an antibiotic that also works as an anti-inflammatory and may prevent cells from dying) within 24 hours of having a stroke had significantly fewer disabilities than those who weren't given minocycline.

As for Britt Harwe, who suffered a stroke after a chiropractic adjustment, she's now 41. And she feels fortunate

Women between 45 and 54 are more than twice as likely as men to have a stroke—and are more likely to die from it. Know your symptoms to avoid being a statistic.

that she didn't die—even though the stroke she suffered 14 years ago has left her permanently disabled.

She can't swallow, so she has to eat through a feeding tube placed in her stomach. She still has trouble speaking because one vocal chord is paralyzed. Walking is exhausting because her left side is weak. And she's suffered from depression. Still, Harwe believes the future will be brighter.

"When my daughter was young, it took all my energy just to raise her. But now that she's 16, I'm focusing more on my own recovery," she says. "I'd like to return to work someday. And I'd like to give more attention to my marriage; my husband has been a saint through all of this, but it's been tough on him, too. I've lost a lot of my life, but I have time to make it better." ●

Health.com

For tips on how to stop smoking, lose weight, and exercise more—plus, healthy recipes that are low in cholesterol and saturated fat and taste great—go to Health.com/stroke.