Flat tire | *Ludwig Gutmann, MD*

The long evening shadows were beginning to stretch across the trail. The late afternoon sun seemed to explode into an infinite number of sparkles off the Monongahela River. I was near the end of my evening bike ride—closing down after a busy day in the clinic. The oppressive heat of summer had lifted and cool breezes promised that fall was coming. The dense green foliage of the forest floor framing the trail was punctuated by a mélange of colors—wild yellow sunflowers and goldenrod, the dusty rose of the towering Joe-Pye weed, white goat's beard and Queen Anne's lace, and the intense purple of the occasional ironweed and bull thistles.

As I rode, I replayed the day's clinic in my mind, picturing and sorting out the patients and their families, some old friends, some new referrals, all hoping for help and understanding and, for the new ones, finding the cause of their problems. One young woman's image dominated my thoughts. What began as a straightforward case of cerebral palsy had turned into a moving and heartrending story.

The soft crunch of my bike tires rolling over the fine pea gravel was interrupted by a sudden hissing sound. I looked down and saw the back bike tire begin to flatten. My right hand automatically squeezed the brake handle. The day had been full of challenges, and here was another—half an hour patching a flat tire. My momentary annoyance was replaced by thoughts of Stephanie's quandary.

She had been the first patient of the morning. I watched her walk down the hall from the waiting area. An older woman and my office assistant walked slowly alongside her. She watched the floor as she maneuvered stiffly toward the exam room. The awkward swing of her legs and the unusual angle of her left arm magnified the effort she was making.

I looked at the referral sheet and scanned through her medical record. She was 23, she had cerebral palsy, and her memory was said to be deteriorating. The medical student working with me kept watching her as she disappeared into the room.

"I know her from someplace," he said. "She looks so familiar. I wish I could remember where I've seen her." I let it pass.

After a time, I tapped on the exam room door. The medical student and I went in to join the patient and the woman with her, who was her mother. Stephanie struggled up from the chair to shake hands with me. Her mother smiled briefly, nodding her head, but kept her gaze fixed on her daughter. The young

woman sat down and immediately slumped in her chair, her sandy colored curly hair pulled back and tied in a short ponytail with a doubled blue rubber band. Some strands were scattered at random in different directions as if she had gotten ready to go out without looking in the mirror. Stephanie was a bit overweight, and this, together with her sad expression, detracted from her otherwise pretty face.

"I'm here," she began, with a sorrowful look, "because I'm having so much trouble remembering. The doctors at home say it might be a dementia but the medicines they put me on didn't help. In fact, the drugs made it worse and made me gain 70 pounds. They've done MRI scans of everything and tested my memory and they say my cerebral palsy's getting worse. Not only that, I've been diagnosed with fibromyalgia and. . ."

Once started, she went on and on with a welter of second-hand opinions from other physicians and test results, but nothing she said was very helpful. She was taking me in the wrong direction, like a traffic officer signaling a left turn when you want to go right. I put my hand up for her to pause. "I think I'd like to start from the beginning. Can you tell me the details of how your symptoms developed? Can you and your mom talk about the first few years of your life?"

She turned slowly to look at her mother and then back toward me. She never smiled. Her melancholy seemed to overwhelm the room. "Well, to start with I was born two months early and was the first of twins," Stephanie said.

"I kept telling the doctor," her mother interjected, "but he wouldn't believe there were twins 'til they were born." I could sense a touch of sadness and resignation in her voice, any anger having dissipated long ago.

"Both babies were sent here," her mother continued. "Stephanie only weighed three pounds and she was in the ICU six weeks before I could take her home. Her brother died at three weeks. Stephanie is our only child. My husband and I have devoted ourselves to doing everything we can for her."

"Tell me about Stephanie's developmental milestones," I asked. "When did she begin talking and walking?"

"There was never a problem with her talking," she said, "but she didn't take her first steps 'til she was two. It's always been a struggle for her. Over the years, she had a lot of operations on her legs. They

lengthened tendons, moved some muscles and even fused her left ankle."

"I really manage pretty good," Stephanie said. It was the first time she sounded positive.

"How did you do with your studies?" I asked, not sure whether Stephanie or her mother would answer.

"Stephanie won't tell you but she's always been a good student," her mother was taking the lead. "She was a scholarship student here at the university. She always made the honor roll and graduated a year ago."

A college graduate? For a moment, I stopped writing notes in her medical record and looked up. "The honor roll—you weren't having any memory problems then," I said, looking at Stephanie. There had been no clues that a scholar's mind lay hidden beneath her depressed appearance.

"No, not then," she said. "My trouble remembering didn't start 'til after I began medical school."

The surprises kept on coming. I decided to stop writing and put down my pen. I waited, looking from one to the other and finally back to Stephanie. The room was suddenly silent except for some distant murmurs coming from the nursing station.

"I had to take a leave of absence after seven weeks," Stephanie said softly. "There was so much to learn and so much to memorize. I really felt overwhelmed. It was so much harder than college. I had to study all the time and then I had trouble sleeping. After a while, nothing made sense. I couldn't concentrate, I couldn't remember, it all got mixed up. I really tried. Mom even moved into my apartment for the last few weeks to help with all the household things—we both wanted to make a success out of med school. The fact I missed the first three days of classes didn't help. Then we were in a car accident coming up from home. Nothing serious, but I did bang my head and hurt my shoulder. It was pretty scary. The doctors in the ED said I was okay." She began to cry quietly. The student working with me handed her a tissue.

"So, you dropped out of school?" Stephanie nodded. "What have you been doing the past year?" I asked.

Stephanie wiped her eyes. "I've been staying at home with my mom and dad."

"She spends a lot of time with her dog and takes long walks in the woods," her mother said.

"Have you tried working or taking classes?" I asked.

"The memory problem makes doing anything impossible, I'm awake half the night, and I'm tired all the time," Stephanie said. "I thought about a part-time job but I'd lose my health insurance—I'm covered by my mom and dad's plan."

Spending time with her dog at home, no effort to even volunteer, no mention of reading—Stephanie was just vegetating. Why had she decided to quit? Her physical infirmities had never stopped her before. Had medical school been too much of a chal-

lenge for her, and had the stress of the accident played a role?

Stephanie's mother handed me a formal written evaluation made by our neuropsychologists the previous fall. The report indicated that Stephanie had done all the tasks of the tests well, although at times she lost her concentration, and this very likely reflected her depression. They felt her intelligence was well above average but less than expected in a medical student. There were no changes to suggest that she had dementia.

When it was time for the physical, Stephanie moved determinedly to the exam table. Her foot motions were awkward, especially those on the left. Her left hand, when held outstretched, assumed a contorted posture. I presented some mental tasks to her and she performed them slowly but flawlessly. She knew the date and where she was. Her knowledge of current events was excellent. She correctly spelled the word, "world," backwards, without hesitation and remembered my three favorite test words—apple, bicycle, and Park Street—after 10 minutes.

While Stephanie got dressed, the student and I left the room to view the MRI scan of her brain done several months earlier. The ventricles were larger than expected in a 23-year-old woman, and there was scarring deep in the right hemisphere of the brain. The cortex of her brain was untouched by the insult she'd sustained so many years ago.

"Her brain took a real hit when she was born," I said, "but there's a lot more to her problem."

"You know," the student said, "I realized while we were in the room how I know her." For a moment I thought he was changing the subject. "We took several biology courses at the university together, before we came to med school. They were big classes, so I'm not surprised she doesn't remember me. Stephanie was good but no one in the class worked as hard as she did. Any time I was in the library, she was there studying. I think her whole life was school."

I nodded my head; interesting information, I thought. Her academic accomplishments had been her constant source of courage in the face of physical adversity. She'd worked hard to achieve success. She'd likely given it her maximum effort. The intense challenges of medical school could have been one step too far, and maybe the traffic accident had added intolerably to the burden.

A stillness had settled over the room when we returned. Stephanie and her mother watched me expectantly as I pulled up the stool and sat down. The student stood behind me, leaning against the metal cabinet.

"As a neurologist," I began, "I have to say I can't find anything wrong to explain your memory loss, insomnia, and low energy. Your problems walking and clumsiness as well as the MRI abnormalities date back decades. There's nothing to suggest worsening of your cerebral palsy. The neuropsychological test showed no signs of dementia." I told her that a

serious depression was the most likely explanation for her symptoms.

"That's good news, but what is our next step?" her mother asked.

I leaned forward as we talked about other students who found medical school a struggle and the pain and distress of having their hopes and dreams shattered—that medical school is much more intense and demanding than college and sometimes it doesn't take much to tip the balance.

I paused for a moment and then continued, "You've dealt with your neurologic deficits effectively and your academic achievements are impressive. You really worked hard to succeed." I was thinking about my third-year medical student's observation of Stephanie's classroom diligence. "You're like the fine college basketball player who's having difficulty in the pros. This doesn't take anything away from how well you have done, but you need to stop and take another look at where you're going. You need some counseling to help you decide about your future.

Whatever you do, you're an intelligent person and you need to get on with your life." Stephanie nodded to say she understood.

The sun was beginning to set as I finished patching the tire and began blowing it up with my small black air pump. A long train, silver colored cars filled with black coal, rolled by on the other side of the river, the twin engines blasting their whistle. I quickly got the repaired bike wheel attached. My tire was perfectly good again and I felt an intense sense of accomplishment. I thought about Stephanie's academic successes in college and how hard she had to work. Was medical school worth another try? Was it a goal that made sense for her? She would bring a great sympathy and understanding of patients with infirmities to her role as physician if she continued, and that could count for a lot.

As I pedaled off, a full moon was beginning to rise above the nearby ridge. I was sure she would find the right path.

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