

Chemical Warfare

by Jim Atkinson

When diesel fumes, power lines, and even his wedding ring made a Dallas man faint, he knew he had a big problem.

About six years ago, a young Dallas engineer we'll call Dave came down with a strange and frightening malady that to this day he can only describe as "falling apart." The way Dave tells it, he suddenly began losing control of his body and, hence, his life.

A lot of the falling apart involved falling down. In public and in private, at work and at home, Dave's legs would just "stop cooperating," sending him to the floor in a bewildered heap. This development was especially distressing because Dave's only other medical annoyance was the allergies he had suffered since his childhood in Indiana.

Occasionally one of his "drop attacks" would turn into a convulsive fit that looked much like a grand mal seizure or some other neurological dysfunction. But while epileptic seizures are usually triggered by a single external stimulus, Dave's attacks fit no clear pattern. "I fell down at work one day when this female CPA who was doing our auditing passed by me," Dave says. "She was an attractive young woman, and as she approached me in the hallway, I felt my legs go and I went to the ground. I said 'Boy, you really knocked me off my feet.' That was about as good an explanation as anyone had."

Over time, Dave's sensitivity to phenomena became ever more preposterous. He would fall down or become nearly catatonic at the sight of yellow-orange, upon hearing a loud, particular pitch in his left ear, in the presence of certain odors, or when he was near power lines. Believing that the symptoms might be a result of new antigens in the Texas environment, Dave went to see Dr. William Rea at the Environmental Health Center in Dallas, a research and treatment facility specializing in diseases caused by substances—many of them man-made—in food, water, and the air.

Practicing out of cramped quarters in a North Dallas office complex, Rea and his staff of nine doctors and scientists are part of a growing field known as environmental medicine. Though scientists have been warning of the relationship between disease and elements in the environment—especially man-made chemicals—since the fifties, the medical establishment has generally treated ecodocs with indifference, if not derision. Within the past decade or so, though, the

number of medical doctors—not just alternative-health practitioners—entering the field has given it legitimacy. Since the Environmental Health Center was founded in 1974, Rea and his colleagues have tested and treated more than 25,000 patients. A surgeon who was once considered a controversial leader of a radical branch of alternative medicine, the avuncular 59-year-old Rea now presides over a crowded waiting room and is in the process of expanding his treatment center.

Rea had a hunch that Dave's problem was a severe sensitivity to multiple elements in his environment but ordered him to undergo a battery of tests, principally neurological and psychological. EEGs and MRIs turned up no sign of epilepsy. Psychological testing pronounced him mentally fit. Dave even had his eyes tested to check out his sensitivity to yellow. The ophthalmologist told him, "Your eyes are fine. I've never seen anything like your problem in thirty-five years of practice."

A full physical workup at the esteemed Cooper Clinic in Dallas revealed no obvious diagnosis, even though Dave went into a fit during auditory testing. The doctors pronounced him healthy. Referring to his peculiar symptoms, one doctor said, "Good luck with that."

With serious neurological and psychological dysfunction ruled out, Rea was ready to screen Dave for chemical sensitivity. Technicians at the center "challenge tested" Dave with a series of substances that had turned up in his blood tests. Challenge testing involves exposing the patient, by injection or inhalation in a clean chamber, to commonly irritating substances as well as to seemingly innocuous ones, such as common metals, in an attempt to recreate the symptoms.

The tests showed that Dave was "allergic" to a good deal more than ragweed and mountain cedar. In fact, he was almost pathologically sensitive to more than a dozen everyday substances.

"It was one of the more amazing cases I've seen," drawls Rea. "His entire immune-detox system was shot, and it had just happened so fast. He really was falling apart. Theoretically, given time, his sensitivities to stuff would have killed him. It has happened before.

Listening to Rea describe the painstaking processes his clinic follows in reaching its conclusions, it's hard to remember that not so long ago his discipline was lumped with macrobiotic diets and all manner of untested and often self-prescribed "natural" remedies. Like members of the environmental movement in general, environmental physicians were considered alarmists and left-wing ideologues.

During the seventies, the clinical ecology movement, as it was called at the time,

gained more publicity and gradually more respectability. The creation of the Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration brought many of the movement's concerns into the political arena for the first time, and the public sector began to recognize at last the existence of hazards such as "dirty buildings"—offices, public buildings, and schools contaminated with chemical pollutants from air ducts, carpeting, and furniture preservatives (like lacquers, varnishes, and waxes).

But it wasn't until the eighties and nineties, when health care costs soared and patients began to be a bit skeptical about traditional medicine, especially drugs and surgery, that the eco-docs found themselves inside the loop. Now even the American Medical Association and the American Academy of Sciences have bestowed their blessings on the environmental health movement.

Part of this is because chemical sensitivity has been shoved into the spotlight by the recent discovery of Gulf War syndrome, a set of symptoms that many scientists believe were caused by intense exposure to certain chemicals, both those created specifically for warfare and those produced by oil-well fires. But the recognition of environmental medicine has as much to do with the swelling number of patients who, like Dave, have turned up with symptoms that baffle traditional medicine.

Rea calls chemical sensitivity a quiet epidemic, and it's easy to see why. According to the EPA, there are more than 13 million chemical compounds out there, more than 72,500 produced commercially. Three new compounds are introduced into the environment each day. Small wonder that an estimated 15 to 20 percent of the U.S. population suffers from some form of chemical sensitivity. Says Rea: "It used to be one out of twenty. Now it's one out of five. Before long, it may be two out of three."

Chemical sensitivity is particularly daunting because everyone is at risk. It works like an infection and can happen slowly or quickly: Sometimes an individual's immune-detox system is traumatized by a single "hyperexposure" to a noxious substance—say, sulfur dioxides, metals, pesticides, or solvents; alternatively, a person can be gradually weakened by a slow accumulation of toxins. In either case, his system ends up exhausted and depleted of nutrients by the strain of adapting to the foreign substances.

When the cumulative load of toxins reaches a critical point, the immune system is compromised. Each individual has a personal threshold for cumulative load, depending on his genetic makeup, exposure to chemicals as a child, and other lifestyle factors. The vast majority of us have high thresholds. A few, like Dave, are hypersensitive. But, as Rea says, "You combine advancing age with living in

an increasingly polluted environment like Dallas', and healthy people can come down with this."

Initial symptoms generally involve organs and tissues first invaded by the noxious substance—for example, sinus and lung problems from the inhalation of larger-than-normal amounts of ozone. Other common first symptoms include fatigue and disorientation, muscle and joint pain, and skin disorders. But continued exposure to the substances can cause a ripple effect to other parts of the body. Worse, extended exposure can lead to a so-called end organ disease, such as chronic lung, liver, or kidney damage, or to "spreading": Once the switch of chemical sensitivity is flipped on by one substance, the individual becomes sensitized to other substances, and other parts of the body may be affected.

"Once the gateway is opened, the threshold passed, all hell can break loose," says Rea. "The body's ability to dispose of invading toxins is diminished. The patient is a sitting duck."

When Rea had finished challenge testing Dave, he had a list of at least a dozen substances—many of them common—that could induce Dave's seizurelike symptoms. Dave's triggering substances seemed to have been tin and certain other metals he had been heavily exposed to in his work as an engineer. "I had been around a lot of soldering," he says, "and apparently the tin and the nickel in the solder got to me." Even his gold and silver wedding band had begun to make him sick.

"It was a classic case of the gateway," Rea says. "I think maybe the tin was his traumatic exposure. But once that had beaten him down, he was fair game for lots of other things."

A second category of irritants for Dave, Rea discovered, was cleaning solvents, especially those used in dry cleaning. Dave was also sensitive to perfumes (explaining, perhaps, his dramatic reaction to the CPA at his office that day), diesel oil, alcohol of all types, and hydrocarbons. "It was like I was sensitive to the world," he says.

Dave's spreading effect had been extreme. Aside from chemical substances, he also reacted badly to certain common foods, particularly milk, corn, and wheat. Moreover, his multiple sensitivities had affected his neurological function. Though test after test had shown that he did not have epilepsy, seizurelike episodes were still his primary symptom.

He finally overcame his problem with yellow-orange by wearing specially tinted glasses, but his left ear continued to give him trouble—sometimes in the strangest

ways. “One of my sons found a particular pitch of screech that would send me into a drop attack,” says Dave. “No kidding. That kid could paralyze me just by yelling.”

What really told Rea that he had an exceptional case on his hands was when Dave’s sensitivity progressed from substances to electromagnetic fields. Eventually Dave’s wife had to do all the driving, since a flashing turn indicator or an overhead power line might send him into a fit.

With Dave’s problem areas at least partly defined, Rea devised a disease-management plan. Further challenge testing calculated the amounts of the various substances Dave’s system could tolerate. He began taking regular desensitizing injections of small amounts of these substances.

At the same time, Rea started Dave on daily vitamins and minerals to restore his immune system and, more important, mapped out a new lifestyle for him. Dave cut out all foods that troubled him. He installed air purifiers in his home and office. He and his wife scrapped their carpeting and any piece of furniture that was made with foam rubber. He installed a sauna at home and began a regimen of twenty minutes of exercise followed by twenty minutes in the sauna three times daily, literally sweating out the toxins in his body.

Gradually, his symptoms began to ebb. Dave has even started to feel good again—so good that at times, he confesses, he has fallen off the wagon. “I’ll get a little lazy about some part of it, mainly the diet,” he says. “And I’ll be okay for awhile. But soon enough, in a couple of months, the symptoms will come back.”

Just recently, in fact, Dave discovered that slacking off his regimen can be expensive in more ways than one. He began feeling the old weakness in the legs and other effects of the disease again and realized that his home wasn’t as antiseptic as it needed to be. Specifically, mold was beginning to build up under his dishwasher, insulation in his attic was restricting air replacement in the house, and even worse, residue from his asphalt roof was seeping into the attic. “We decided to replace the roof,” Dave says. “Okay. A new asphalt roof costs maybe \$2,500, right? Well, the guy brings out a sample of the asphalt and I feel my legs go. No asphalt. We look at wood, but the preservatives would give me too much trouble. So we settle on aluminum; that’s a metal I’m not sensitive to. The roof cost \$9,000.”

The work in the kitchen, the addition of “whole home” air and water purifiers, a new heat exchanger—all have stretched his finances to the limit. “I have to look at this thing as a series of trade-offs,” Dave says. “Like now, because I slacked off some on my program and relapsed a bit, I can’t travel to India this summer. I have

to wait until next fall, when my system is strong again.

“But I like to remember it’s a cumulative thing,” he says slyly. “These days I sauna five times a week for six weeks, and that gives me some room to eat something I’m not supposed to.”

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