

Multiple Chemical Sensitivity: How Chemical Exposures May Be Affecting Your Health

Opinions expressed by those interviewed in this documentary are not necessarily those of the filmmakers.

The patients in this video are identified by their former occupations. Most are no longer able to work because of the chemicals they encounter in the workplace.

Hadn't really focused that much on how dangerous the paints were, you know. We knew when we read the back end of a paint can that it said it will cause this and cause that and cause this and cause that, and we used to laugh and say, why don't they just say it will kill you.

People just don't understand how sensitive you can be and how sick you can become from, you know, household cleaning products or their perfume or their aftershave or little things like that.

Mothballs are horrible. You know, you walk by a little old lady that's had her stuff stored in mothballs for the summer and it's nauseating, and it's those simple everyday things of life that can make you very ill.

The chlorine in the shower. If I go visit friends, the chlorine drives me crazy.

When I was painting, the crew and I would joke about the fact that we were killing brain cells.

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MCS
Multiple Chemical Sensitivity
How chemical exposures
may be affecting your health

Revised 2004
version with new Gulf War
Syndrome footage

Narrator

Humans have evolved over millions of years in an environment of relatively clean air, earth, and water. Since World War II, however, tens of thousands of new chemicals have entered the marketplace and the safety of most of them has not been verified by any government agency. According to a General Accounting Office document from 1994, over 70,000 chemicals are in use in the United States. Although these chemicals are an important part of our economy, they are often toxic and can have adverse effects on human health.

Karen McDonell
MCS Advocate, Seattle

I got chemical sensitivity working in a tight office building that was remodeling, and when I first started getting sick, I had sore throats, I had burning sinuses, swelling sinuses. It felt like my ear was swelling closed, sore throat, and I really didn't concern myself too much with those symptoms, but as time went on, I began to have this sensation that my face was getting numb on one side, and weeks went by and it was very profound, felt like my ear was swelling closed, and it felt like I had tunnel vision in just this eye, and that changed my level of concern about the effects that I was having in my building.

The newspaper did a story about me and my sick building, and in just a few days my phone was ringing and ringing and 35 of the calls that came in were from people who had stories almost identical to mine, and I kept their names and addresses, and so here we are eight years later and there are no 800 names on my little database of people with chemical sensitivity in my state.

Richard
Painting Contractor

I was a painting contractor. I did that for about seven years, and in retrospect I have to say that I started having problems after about three years of that occupation, but I didn't recognize it until things really reached a critical point. At that point, I went into a doctor, and he explained to me what was going on. Basically, I was having muscle spasms. I'd be driving down the road, and I wouldn't remember where I was going or why.

I found that I was having a lot of difficulty breathing. I'd feel a real heavy pressure in my chest. It was almost like having something inside that was pushing against the chest wall. It created a lot of pain; I also had a lot of pain in my spine.

When I would go and do a painting bid, and, you know, I'd be trying to impress the customer and give him all kinds of information, that sort of thing, and I would sometimes lose my ability to speak. This was very distressing to me. I've later come to associate that with certain types of exposures to perfumes and fabric softeners, but at the time I didn't know what was going on. All I knew was that I would lose my ability to concentrate well enough, lose my ability to think clearly enough to express myself, and I would just stand there looking kind of stupid. Obviously, I stopped winning contracts at that point.

It was one of the hardest things I'd experienced in my life because I felt very competent at running a business and employing people and I felt in control of my life. I felt good about myself. One of the hardest things for me was to have my body essentially let me down on a

continual basis over and over again and worse and worse to the point that I just had to withdraw more and more to protect myself and keep myself from being excruciatingly ill.

Claudia Miller, M.D.
Univ. of Texas Health Science Center

Multiple chemical sensitivity is probably the most common name that has been used for this set of symptoms that some people report having where they respond adversely to common things in the environment—chemicals, foods, medications, alcoholic beverages, caffeine—and their symptoms occur at levels of exposure that don't bother most people and formerly did not bother those individuals either in many cases. Some of these people became ill after an exposure like in a sick building or a pesticide exposure, and now they're reporting multiple symptoms in response to a wide range of chemical exposures, chemicals that are completely unrelated to each other. As it turns out, one of the theories that people are examining in the area is that perhaps chemicals can somehow sensitize the pathway between the nose and the brain so that later very common exposures can set off erratic electric discharges along that pathway and affect areas of the brain that are responsible for mood and for concentration and memory.



Common MCS Symptoms

- Headaches
- Migraines
- Extreme fatigue
- Muscle pains
- Joint pains
- Difficulty concentrating
- Insomnia
- Irregular heart beat
- Asthma
- Sinus problems
- Depression
- Eczema
- Rashes
- Memory problems
- Anxiety
- Bloating
- Nausea
- Vomiting
- Intestinal problems
- Seizures

Narrator

People with MCS can have a wide variety of symptoms as the result of chemical exposures, with different patients having different symptoms. A given patient, however, will usually have the same symptom in response to a given exposure, perhaps getting a headache after exposure to paint or getting arthritic pains after exposure to natural gas.

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Michael
Arborist and licensed pesticide applicator

I started in the tree business in Connecticut in 1980, eventually built up to lots of employees, lots of trucks. In a 90-day period in the spring, we would spray over 100,000 gallons of pesticide.

When I finally realized that I was becoming sensitive, the first thing that I noticed was that I was having trouble with foods and didn't make the connection that I was having trouble with the pesticides themselves until I noticed I would get sick being around the trucks that had the pesticides in them. Didn't seem to make much sense, but I started to avoid being around the trucks full of pesticide. One morning while spraying a hospital, I broke out in a rash pretty much from head to foot even though I wasn't actually spraying the chemicals myself. I was just nearby supervising. And I got real sick, came down with, you know, what I thought was the flu at the time, basically just never recovered.

I still have to be really careful because all I need is a slight exposure, and for some reason, petroleum will really set me off, different kinds of household cleaners, different things will just set me right back.

One of the things that happened after I got sick which was the business with the fatigue. I couldn't stay awake for more than three or four hours at a time, and that lasted for easily over six months. I can remember getting up in the morning, sending the guys out to work, coming home at 10, 10:30 in the morning, falling asleep and staying asleep till the middle of the afternoon, waking up when they would come back in, you know, putting the trucks away and stuff and go back to sleep right after dinner, 6:30, I mean, you know, sleep for 12 hours and get up and still be exhausted, like there was no amount of sleep that would cover it.

Julie
Zack's Mother

When Zack was eight months old, we had an oil burner that apparently was faulty, and while we were in the house, the oil burner blew up. Out of the vents when I looked up was black thick

soot, and it was blowing in our air. It covered everything in the house. We basically, we moved out of the house. A man came in, and they did a whole cleanup and servicing of the house because it was that oily black stuff. At the time the man said to me, “This is very dangerous for an infant.”

And that was basically the start of the nightmare. From that point on, within a matter of weeks, Zachary, who had been nursed for eight months, stopped nursing cold, would not take any foods, no food, no liquids, nothing. He went from 21 lbs. at eight months to 17 lbs. at one year.

We had to do all different things to get nutrients into him, which set off a chain reaction of patterns of not sleeping, of throwing tantrums, of rocking like an autistic person or child does, of head banging, a whole lot of things like that initially. When he was 13 months old, he got up on his hands and knees and just banged his head as hard as he possibly could until he would either knock himself out or draw blood. He didn't sleep, very important. He never slept.

At around age three and a half was the first physical symptoms, where you know, when you can see what's happening on the inside on the outside. He broke out in open, weeping sores and rashes covering his body head to toe. He would bleed from behind his neck, behind his ears, all over his arms. His reactions took the form of looking like burns, where they would come out in burn marks, bubble up into these pussy blisters and actually pop.

He had periods of seizures from specific exposures to chemicals. He had a string of EEGs [Silvia, this stands for “electroencephalogram”], and we were able to show that when the EEG is done when he's having a reaction, there are irregularities in the brain and when it's done when he's not having a reaction, there are none and it shows no problems in the brain, which to me is very significant.

From there, we basically went from doctor to doctor to doctor. We went all through Manhattan; we were referred to the best of the best of the best and nobody could really help us. He was diagnosed as an unclassified disorder.

Karen McDonell

Miners used to carry canaries into the mines with them because canaries were more sensitive to gases than humans and they would know that if a canary suddenly died that they needed to get out of the mine quickly, and people with chemical sensitivity have been likened to those canaries, and I for one would hate to think that we wouldn't listen to this early warning sign that maybe the levels in our environment have exceeded the thresholds that we humans can tolerate and do something to prevent further injury.

Ron
Facilities development & construction management

Welcome to my home. I'm camped out out here because I've developed sensitivities to chemicals, and the only way that I've found to avoid the symptoms is to avoid the chemicals themselves, and there aren't many chemicals out here, as you can probably well imagine. And I've been out here in a tent I guess since February. It was a little chillier back in February than it is now. But I've been living in a tent for the most part for the past eight years. When I got out of college, I went to work as a construction manager in facilities development for restaurant chains, grocery chains, retail chains, and spent a number of years in that, and that's when I first noticed that I was becoming sensitive to chemicals. Dry cleaning fluid, I was traveling, having my clothes dry cleaned all the time, staying in hotels, the air freshener in the hotels, driving new rental cars, the off-gassing of the plastic.

I started developing rashes, and the blueprints, the ammonia-processed blueprints, were causing me a lot of problems, carrying those around in the car, carrying them in a bag on the airplane. Airplanes, let me tell you about airplanes. The jet fuel, which is essentially kerosene, I became really sensitive to jet fuel. I couldn't go to friends' cabins where they used kerosene lamps, and I became sensitive to candles, I mean burning. I didn't put it all together. I didn't know anything about chemical sensitivities back then. I didn't realize what was making me sick.

I finally decided I needed to see a doctor. I hadn't seen a doc in ten years, fifteen maybe. I'm not the kind of guy that goes to the doctor very often. I went to see a doc, and the doc told me that she thought I might have multiple chemical sensitivities. (At that time they didn't call it that, they called it environmental illness.)

Ironically, in an effort to avoid chemicals and chemical exposures, I was in a national park when I was exposed to pesticides last year, which really made me ill. After I was exposed to pesticides last winter, I developed symptoms like twitching, tremors, my hands would shake, my legs would shake, even standing, walking, sitting, whatever. My vision was blurred, and I would get lightning flashes in front of my eyes.

Karen McDonell

My friends sometimes forget I have chemical sensitivity and that's because, you know, it doesn't show on my face. I don't look ill. People tell me all the time that I look well, but I could be having a migraine at the moment they're thinking those things, and they would never know unless I told them. Obviously, there are symptoms of chemical sensitivity like rash or eczema that, you know, you would see, but many and most maybe of the symptoms do not appear at all. So that's sometimes difficult for us, having an invisible sensitivity.

Chip,
High school history teacher

I'm a high school history teacher from Washington State, and I became very ill working in my classroom. Mold was discovered in my classroom, and I became very sensitive to mold and later developed multiple chemical sensitivity.

William Meggs, M.D., Ph.D.
Brody School of Medicine
East Carolina University

Molds have become a very big problem. Well, they've always been a big problem, but the awareness of the problems of molds have really increased recently. Molds can cause problems in two ways. One is people can have immunological reactions to the proteins on the mold spores. They can be allergic to them. They can get hypersensitive pneumonitis or other problems associated with the proteins on the mold spores. But there's another problem with molds. When you have high concentrations of molds such as in a damp, moldy basement or whatever, the molds actually produce what are called mycotoxins, and these are low-molecular-weight chemicals that get in the air, and they can be very irritating to the respiratory system, particularly in people who have asthma, chronic sinusitis or rhinitis, or other chronic respiratory conditions.

Chip

As a result of this, my workplace environment became very difficult. I became sensitive to some of the products we were using in the classroom, magic markers, white-board markers, the shampoos they were using to clean the carpet, and some of the cleaners that they were using. I initially discovered this by losing my voice. I became very hoarse, and as a coach and as a teacher, you can understand how that became very difficult to do my job. Ironically, I was an All-American wrestler in college, and everybody was very surprised when I became very ill and had many different symptoms—headaches, I gained a considerable amount of weight, I had a lot of fatigue and basically was very lethargic, didn't have a lot of energy as a result of these acquired sensitivities.

My workplace environment did improve a little bit once the school decided to move me into another classroom that was not infected with mold. It was very challenging and very difficult to do my job. The students I had to ask not to wear perfume, which was awkward for some of these younger kids that really didn't have an understanding or a sensitivity to the possibility that people react to various chemicals.

Randa
State employee, land use planning

I worked for a land use planning agency in San Francisco, California, for ten years. Then I came to work on a Monday morning, and they had glued down new carpeting over the weekend, and I immediately started having very severe reactions to the carpet. I couldn't think straight, I couldn't talk straight, I couldn't walk straight, I couldn't compose a simple letter. I had pain in my chest, I had swollen lymph nodes, I had burning in my lungs.

The reactions the physical reactions, just continued to build and increase. I tried to come to work and on the weekends I would sleep all weekend so I could come to work the following Monday. I could barely climb the stairs to my office. I had to pull myself up by the handrail, I was so severely fatigued.

I had no idea what it meant to have any problems with anything, very healthy, went hiking in the Himalayas, and I then became a person that could barely get out of bed.

I started reacting to copier fumes in the office, to the smell of the copy paper, to peoples' shampoo, to their laundry products, to the files that I had to use. They smelled moldy. And we had a new secretary who wore a lot of perfume, and I could barely even walk by her without feeling like I was going to pass out.

Toxicant
Induced
Lack of
Tolerance

Claudia Miller, M.D.

Toxicant Induced Loss of Tolerance, which is abbreviated TILT, is a theory of disease that says certain people if they're exposed to low levels or high levels of chemicals may develop a loss of tolerance to previously tolerated substances. For example, they may no longer tolerate being around household cleaners or traffic exhaust or just drinking caffeine or having an alcoholic beverage like a beer or a glass of wine. They may also have difficulty with particular foods making them feel ill. So they've lost tolerance to previously tolerated exposures, and this occurs as a consequence of either a single, maybe major acute chemical spill or maybe exposure in a sick building where there are repeated lower level exposures. But in any case, certain people who appear to be more susceptible will go on to have these intolerances, so it's Toxicant Induced Loss of Tolerance, or TILT.

With TILT, there are really two stages. First of all is initiation of the problem by some major exposure, and secondly, triggering is the second phase. It looks a little bit like an allergy in that people have some initial event and subsequently are sensitive. But here we're talking about sensitivity that spreads to previously tolerated substances. And the second phase is called triggering, so you have initiation and triggering that occur. With the triggering, almost anything seems to be able to set off symptoms, and we've observed this not only with patients who say they're chemically sensitive, but similar problems have been reported by people who have chronic fatigue syndrome, diagnoses of Gulf War veterans or Gulf War syndrome, Gulf War illness. We've seen this reported with people with attention deficit disorder, fibromyalgia, a host of illnesses. We also think that people who have migraines, depression, problems with chronic

fatigue syndrome or asthma frequently have these intolerances. So there's a wide spectrum of illnesses now that we think may fall under this grouping of TILT-associated illnesses, or TILT-associated diseases.

Julie

About two and a half years ago, we reached a point where I could do nothing to help Zachary. He was in pain all day, 24 hours a day, and he cried nonstop. I found a doctor who suggested that maybe a change of climate and atmosphere would help him, to a less toxic, dryer climate, smaller community. We left Long Island, and we moved to Arizona, which is where we are now. When we got to Arizona, it was the first time in his life, basically, from the time he was about a baby until five and a half that he slept through the night, for the first time in ages.

Then we had the chore of finding safe housing for him because he can't tolerate or he's sensitive to all the materials that make up an ordinary house, like carpet or paint or things like that. We started off, in one place we moved four times since we got here, which is now two and a half years later. I think we're in a good place now. The third place we were at looked physically OK for him, but our neighbors really liked to spray pesticides in mass quantities, and one day on a very, very windy day, they sprayed their yard with those hoses and the applicators were all wearing those suits, the full-fledged, like astronaut-looking, suits. They were out spraying in the wind, and Zachary took a dive, whereas, he had been doing really well for some time. He took a crash, and he did not come out of it. He just kept on. From April until we got him to a special clinic in August, he just got worse and worse and worse. We took him to a doctor in Scottsdale who took one look at him and said, "I can't help him, he's going to die," is what they told me. He looked like he was going to die; he was about 34 lbs. He had lost, it was almost 10 lbs. in the course of maybe eight weeks. He was losing weight, drastically losing weight; he was emaciated. He had open sores all over his body. His eyes could hardly be opened because they were so swollen. He had difficulty breathing. He couldn't walk, he couldn't talk, he couldn't function, and I had to carry him wherever we went. The doctor said, "He needs drastic help" and ran blood tests on him. In the blood tests, he showed tremendous high chemical amounts of toluene and trimethylbenzene, and benzene. So he went through a rigid three-month-long detoxification program where we attempted to get the chemicals out of his body, and it saved his life. By the time we actually left the clinic, he had put on nine lbs., and he continues to improve, but his sensitivity to chemicals has not decreased. The less exposures he has, the healthier and happier he is. If you look at him today, you might not know there's anything wrong with him until he gets an exposure.

Narrator: Zack must be home-schooled because he cannot tolerate the exposures he would encounter in the classroom

Bonnie and William
Danielle's parents
(Danielle is three-years-old)

When Danielle was less than a year old, we started noticing some food allergies, nothing severe. She would get congested and ear infections, and it would stop when we stopped the offending food. But we didn't really use the word "chemically sensitive" until after our neighbor did a pesticide spraying with synthetic pyrethroid for ants, and she woke up the next day with red welts on all her exposed skin. And then there was a neurological component where she . . . She went into slow motion. She lost her, she didn't have her balance. She wasn't speaking and she couldn't walk straight and she was drowsy. It was like she had been turned down, the knob had been turned down to half throttle, something like that.

Danielle's mother:

She had just learned to speak, and she lost the ability to speak with the exposure. And after that particular exposure, any time we come in contact with chemicals, especially pesticides, the same thing will happen where we won't know what's happening until we see it come out her skin. And once we see the welts, we'll say, "Oh, that's what's going on." In addition, she'll get nosebleeds—real nosebleeds that go on and on, and if we have guests over, they leave the house because it's just horrifying. And there's a reason for all that, but I can't remember what it is, a vascular something, so we're real careful about what we expose her to.

Michael

Arborist and licensed pesticide applicator

There were five houses on this cul-de-sac, and we sprayed four of those five houses. And the only house we didn't spray, this woman came out in the morning and literally just started screaming at me about how she didn't want pesticides sprayed in the neighborhood and stuff. It was 8:30 in the morning, and she obviously didn't know I owned the business, but I gave her a serious rash of crap because she'd given it to me, and I have thought back about that many times. She was complaining to me about how her child was really allergic to pesticides and she was just trying to protect this child, and at the time all I was thinking about was the 450 bucks she was trying to get me from making on this street. I was just like the Good Humor man, I was just down there delivering the ice cream. I didn't think I was doing anything more serious than that. I wish I could apologize to that lady. I'm sure that her little kid probably was sick from pesticides.

Alberta

Nursing Instructor

I have a tendency to migraines, and what can happen is, I'll go into one of these situations with carpet or paint or whatever, I will get what I call an allergic headache. And if I stay in that situation too long, I end up with this horrible migraine, and then it lasts two or three days and I'm nauseated and I'm kind of incapacitated for a long period of time, which is really very bad because I'm a very busy person. I'm a mother, I'm a wife, I'm very active in my church, and I teach, and I just don't have time for that. So basically the way I manage these things is by

avoidance because that keeps me healthy enough so that I can, I can work every day. You need to know what you need to get away from and how fast you need to get away from it in order to not become ill.

Gunnar Heuser, M.D., Ph.D.
NeuroMed & NeuroTox Associates

A SPECT scan is a scan where the patient is given a radioactive material. The radioactivity travels to the brain, the computer picks it up, and wherever the activity is, that implies in a SPECT scan that blood flow is a given value. So then you get a colored picture, and the colored picture tells you whether your blood flow is higher than normal, normal, or less than normal. And if you do the SPECT scan that way, in a new way, we can now show where the abnormality is in such a way that everybody can understand it, and these are scans which we call three-dimensional SPECT scans, and the one I brought shows various parts of the brain—one from the left, a view from the left, a view from the right, front, and back. And if you look, then you find that the blue areas are the impaired areas, so on that particular scan we have compared my patient, who happened to be disabled from chemical exposure, with a control group. And in this particular patient, we find that there are areas on the SPECT scan which show impairment, and that impairment correlates with what the patient complains of—memory problems and other problems. So that's a SPECT scan.

Tony
Industrial painter

I was raised down here in Cajun country, and down here we've got oil fields and offshore work and that kind of thing. It's our main industry down here, is oil. When I was 18, I went to work offshore. We used to go out there, I remember one time we went out there, and we had an eight-legged platform and a crew of six men and we sandblasted and painted that whole thing from one end to another.

Anyway, I was always breathing MEK, which was a cleaning solvent that we used regularly every day. It was an every day thing. Guess it was around Christmas of 1988, I landed a job with some people that wanted somebody that didn't want to go offshore. Everybody was screaming to go offshore; you could make more money. And I had had my fill of offshore, I wanted to work on land.

But then I would go and drive trucks and everything. I was getting to where I was driving trucks more than painting. When I was getting away from the sandblasting and painting, gradually getting away from it like that, I was beginning to notice that every time I did spray paint and I sprayed paint, in particular urethane paints, that contained isocyanate, that I had to have a respirator on just to mix it. It got to where I couldn't tolerate the MEK, and I was having this sort of like a pinching sensation in my chest, you know, every time I got around this MEK or that urethane paint.

This guy came over and wanted his boat painted. I would go in and out and in and out of this welding shop that didn't have any kind of ventilation or anything like that, and I couldn't open up the doors because there was sand everywhere and the wind would blow the sand in on the pretty boat. The man wanted his boat done to perfection, and so going in and out and in and out and putting my respirator on and off and on and off and painting outside and painting inside and all of that, it was just, I think my body just reached a level where, you know, that was it, like I crossed some sort of a line or something.

Narrator: The next morning Tony woke up feeling as if he had a chest cold, and a few days later he was hospitalized. When he returned home, his health continued to deteriorate.

Tony

By this time, my ankles began to feel, it felt as though I was walking around with sprung ankles, and the bottoms of my feet were like on fire. I couldn't walk from the sofa to the bathroom. I was in a bind. I'm a single parent. I had to sit in a chair, you know, to wash dishes and stuff. I just, I literally just couldn't hardly do anything. Finally, you know, I was getting hungry. It was about three weeks, running out of money and all that. So I went to the doctor, and I asked him, I said, man, "Are you going to let me go back to work?" or whatever. And he was totally against it. By the second day that I was there, they had me loading a truck to go to Texas, the same diesel-driven truck. When I came back home that night on the Interstate, man, I thought I was going to die. The next day I went into work to tell them that I just can't do this, man. About that time the doctor, that pulmonary function specialist, had called me with the results of the SPECT scan. He said, "You've got slight brain damage."

Narrator:

From that point on, Tony was never able to return to work again, and he remains highly sensitive to a wide range of chemicals.

Gerald Ross, M.D.
Environmental Health Center, Dallas

What we do know is that in the metabolic scans that are done on the brain function of patients, we very clearly see that there is a change and a difference in the brain function of chemically sensitive patients that is not psychological, that it looks entirely different, the metabolism of their brain looks entirely different from what is seen in, say, schizophrenia or depression or other psychiatric conditions. The metabolism in the brain function of chemically sensitive patients is most closely alike to that which is seen in patients who have been toxically exposed to things, to chemicals.

Often there is a toxicity that goes on in their brain metabolism that correlates with what the patients report as far as some of these symptoms of anxiety or depression, or they can't think, they can't remember, they lose their sense of direction. Those kinds of symptoms have been associated with neurotoxicity for many, many years.

William Meggs, M.D., Ph.D.

Dr. Lea Steele, an epidemiologist, published a study in the *American Journal of Epidemiology* in November of 2000 which documented that over 200,000 people who served in the first Gulf War are now chronically ill. That's over one-third of those who served.

Claudia Miller, M.D.

The Gulf veterans that we've studied have also reported striking intolerances for chemicals, new intolerances that were never there before. For example, mechanics who used to love being around, you know, gasoline and solvents and all of a sudden they say they feel sick if they're around those. Even if a truck drives into the shop, the exhaust will make them sick—nausea, vomiting, headaches, and so on.

Narrator:

Claudia Miller, M.D., professor in environmental and occupational medicine at the University of Texas Health Science Center at San Antonio, is a member of the VA Gulf War Expert Scientific Advisory Committee.

SGT Roy Twymon
U.S. Army

Since I've been back from the Gulf War, I also notice that lots of things bother me that never bothered me before. Different perfume, different cologne, gas, different smell of even smoke or cigarettes, I just automatically get sick, and sometimes it takes me days or weeks to recover.

Claudia Miller

The big change is in what people feel about odors and their tolerances for them, and this is not just a matter of being bothered by it or disliking it, this is being symptomatic, having headaches, fatigue that's severe, trouble with concentration that keeps people from doing their jobs, changes in mood so they blow up at their supervisors or their spouses for no apparent reason. These are very striking changes in terms of how they respond to common chemical exposures.

Roy Twymon

One day I was on an elevator and someone got on there with some loud perfume, and then all of a sudden it hit me, and I got lightheaded.

Narrator

Roy's blood pressure shot up so high that the emergency room staff thought he was having a heart attack. He ended up spending four days in the hospital.

SSG Tim Smith
USANG (Retired)

You know, the chemical sensitivity is just becoming unreal, and you notice it now. It's before when you used to pump gas, you'd stand there and smell the fumes, you know, great, you know, this stuff don't bother me. Now it's you have got to try to hid and pump at the same time.

SFC Sherry McGahee
U.S. Army (Retired)

Narrator

During the Gulf War, Sherry McGahee served as an intelligence analyst.

Sherry McGahee is a single mother
of five children and four grandchildren

Sherry McGahee

I've been gradually getting worse off. I don't know really what's going on with me. I am fighting to be a meaningful person in the community.

Gerald Ross, M.D.

On of the things about investigating patients with Gulf War illnesses, Gulf War syndrome, is that there are now some very high tech, very objective measurements that can be used that are really very different from the subjective things that they say, "Well, I have this and this and this and this wrong with me." We can now do imaging of the brain metabolism, and there are two

different types of high-tech imaging technology, one called SPECT and the other one called MRI Spectroscopy, which are really very different, but they both confirm beyond any doubt that the metabolism in the brains of patients who are reporting the Gulf War illness symptoms is distinctly abnormal, and it is abnormal in a way that indicates that there is a toxicity and a damage that has occurred in the brains of these veterans.

SFC Sherry McGahee

I have a mind, and it's hard to talk. I forget things when I'm talking to people. I don't remember everything, and then it comes to me later on. I have memory problems since the Gulf War.

Gerald Ross, M.D.

Some of the more exciting work that's appearing recently about the abnormalities that appear in the brain function of Gulf War syndrome patients has been done by a team of researchers headed up by Dr. Robert Haley based at the University of Texas Southwestern Medical Center in Dallas. What they have done is looked at the metabolism in the brains of the Gulf War veterans showing clearly that there is a neurotoxicity, that there is a brain damage in these people when compared to controls.

SFC Sherry McGahee

I lost teeth there, what do you say, eating the insides out of the teeth.

I get 100% disability from VA. I was only getting 60% from the Army. That takes me over a year to get that.

Narrator

One of the reasons it took Sherry McGahee so long to receive 100% disability was that Army doctors had misdiagnosed her case as "a fairly chronic depressive disorder associated with multiple physical complaints and a chronic pattern of social maladjustment."

The Army psychiatric reports on Sherry McGahee contain these phrases:

"As observed by others working in this soldier's case, the patient tends to present with multiple somatic complaints that are either unfounded given medical examination, or are significantly in excess of what might be expected given any positive results from medical examination."

"Patients with this type of response style tend to overreport their symptoms in an attempt to elicit assistance."

“She does have a history of satisfactory military service spanning more than 16 years, so she must have had the capacity to isolate her occupational functioning from her social difficulties in the past.”

“There is some possibility that the longer she is allowed to be dysfunctional on the job, the more ingrained a patient identity will become.”

Countless other ill veterans have been given psychiatric diagnoses. Unfortunately, in general only limited disability payments are available for psychiatric problems.

SSG Bob Jones
U.S. Army (Retired)

My symptoms began in the Gulf with severe abdominal cramping and severe diarrhea that was accompanied with severe headaches and bouts of dizziness and tingling, and once I returned back to Germany, the headaches continued, and I went through periods of night sweats. And I also began to notice my joints were stiff. My knees would swell after running. It was harder for me to do things without feeling shortness of breath.

I spent eight years in the 82nd Airborne Division as a paratrooper. I was in excellent physical condition, and I also participated in many athletic activities. I represented 7th Corps in the Army tennis championships when I was in Europe, and now I have great difficulty walking around the block without just, or walking up a flight or two of stairs, without being totally wiped out and in pain.

Narrator

Toxicologist Dr. Gunnar Heuser, M.D., Ph.D., has lectured on chemical injury and chemical sensitivity to professional meetings worldwide.

Gunnar Heuser, M.D., Ph.D.

I see patients who have a history of chemical injury, and I have seen patients more recently who were involved in the Gulf War and now developed the Gulf War syndrome. And one statement I can make is that the patients who come to me with Gulf War syndrome have exactly the same complaints as the patients I see from chemical injury. So one statement I can make is that all their symptoms can be explained on the basis of chemical exposure alone. Now I'm very much aware of the fact that there was more than chemical exposure in the Gulf War. There were infections, there were vaccinations, there was all kinds of warfare, there was radioactivity, and these are all controversial issues. But my point is that a patient with Gulf War syndrome has exactly the same complaints as patients of mine who have never been to the Gulf War but have had chemical exposure.

SSG Bob Jones

As a paratrooper, I had extensive exposure to jet fuel and jet fumes, and it never bothered me. And after coming back from the Gulf War and having been in the oil fields for that length of time, breathing in the noxious fumes on a daily basis, now just the smell of diesel fuel makes me severely nauseated, dizzy, and very sick. Perfumes, I don't wear any type of cologne because it makes me nauseous.

And things just got to the point, where, you know, I had diarrhea on myself at work a couple of times, and I said, "Enough is enough. I need to get help." It's real embarrassing to be standing around all your men and all of a sudden, you can't even make it to the bathroom on time.

My most recent findings from the Army physical evaluation board are that I have "undifferentiated somatoform disorder," which is the biggest insult that I can even begin to imagine.

Graphic appears saying:

Primary Toxic
Exposures During the
Gulf War

Narrator

During the Gulf War, coalition forces bombed 28 of Saddam Hussein's chemical weapons factories and storage depots, releasing deadly nerve agents like sarin and mustard gas that drifted south over our soldiers.

When the U.S. forces blew up the vast munitions bunkers at Khamisyah after the war, large quantities of sarin nerve agent were released and drifted over at least a hundred thousand U.S. troops.

In the early days of the war, at least 250,000 U.S. soldiers were required to take pyridostigmine bromide pills, PB pills, three times a day as a protection against possible enemy use of soman nerve agent. The PB pills were themselves quite toxic because PB is a carbamate pesticide. The possibility that PB pills may have induced chemical sensitivity in soldiers is raised in a report commissioned by the Department of Defense from the RAND Corporation, a major think tank. The first section of Chapter 11 is titled, "Does PB lead to MCS?"

Another major toxic exposure during the Gulf War occurred when the Iraqis lit over 600 oil well fires as they retreated from Kuwait.

Jim Tuite
Former Senate Investigator.

Many of the soldiers reported that they were coughing up oil and tar and sweating an oil-like substance for months after they returned from the Gulf as the result of their exposures to these fires.

SFC Sherry McGahee

We had 60 oil wells burning where I was. People that had never had asthma before had asthma during Kuwait.

SSG Bob Jones

We saw no sunlight for almost 45 days. The sun was completely blackened out by this thick film of smoke and soot.

COL Herbert Smith

When you spit, it looked like oil. If you blew your nose, it looked like axle grease. It was 17 days before we had enough water that any of us could take a shower. We took the shower, in a tent, of course, closed in. We got clean until we opened the tent door, put on our dirty, oil-soaked clothing because we did not have enough water for laundry.

Narrator

With each passing year, more sick veterans are becoming aware that chemicals are triggering their symptoms. Even ALS victims Randy Hébert and Michael Donnelly have chemical sensitivities, as do all the other veterans we interviewed.

SSG Anne Selby
British Veteran

I have problems breathing in atmospheres where there's heavy perfume concentrates.

SFC Sherry McGahee

Gasoline—that makes me sick at my stomach.

Narrator

Terry's extreme sensitivity to chemicals makes him especially vulnerable to perfume inserts in magazines.

SFC Terry Dillhyon
USANG (Retired)

I hate it. Somewhere in a magazine you'll be reading and they'll have a perfume advertisement. And when you open that page, it releases that perfume. I had it hit me one time. I was just going through the magazine, I opened it up, and this was apparently a pretty potent perfume that put me immediately into an asthma attack. And I had only just been diagnosed with asthma since I had come back from over there.

The asthma attack I had increased during the night. I used my inhalers and went to bed anyway. Then my breathing got extremely bad. They sent a rescue unit to get me. And in the rescue unit, I stopped breathing three times. They took me straight back into the emergency room, continued giving me treatments. About the time they thought I would be all right, I quit breathing again. And it took a couple of days to get me back to breathing like I was supposed to, and all because of a dad-burned little advertisement for a perfume that cost me a couple of days in the hospital.

I had a \$580 rescue bill. I had over \$2,000 emergency room bill, and approximately \$3,000 hospital bill. I'm not getting any assistance. I have no Medicare because I haven't been approved yet, and I'm not getting anything from the government. I had to pay these bills myself.

I have a discharge paper from Washington, D.C., that says I have possible multiple chemical sensitivity. I was going down, I was applying for Medicare, and they send you, Social Security people, send you to their doctors. Casual conversation with the doctor before he started his examination, I mentioned multiple chemical sensitivity. The doctor went crazy, really flew off on me. He said, "I'm going to tell you right now, sir, you just lost all your credibility with me. There's no such thing as that." And sure enough, I got turned down. I don't know what kind of a report he wrote.

Gerald Ross, M.D.

Regarding the issue of chemical sensitivity and its lack of acceptance in the past, we would be so much further ahead if there had not been this resistance in the minds of the medical and scientific community to looking at the possibility of the reality of this condition, and we would be in a better position to be able to help these Gulf War veterans, I believe.

William Meggs, M.D., Ph.D.

These ideas have powerful enemies, enemies with vested interests and possible liabilities that would result from scientific verification of the level of suffering that results from chemical exposures.

PET

Positron
Emission
Tomography

Gunnar Heuser, M.D., Ph.D.

Now we can also do what is called a PET scan. And the PET scan is a scan where you are given, or the patient is given, radioactive sugar, glucose, and the glucose is needed by the brain to function. In other words, every part of the brain functions only because it uses glucose. So if you have radioactivity going to all over the brain as it is activated, then that's normal. But if you find that certain parts of the brain don't get the glucose, that implies that that part of the brain doesn't function well. And I brought some scans to show how a PET scan can look three dimensionally, and where there are what I call holes, you can see in the three dimensional. And these holes are not real holes; they are functional holes, meaning where you see these holes, that's where the brain doesn't function properly. And the examples I brought are patients where the MRI was normal, meaning that there is really no hole. They have all the cells; it's just that the cells don't function properly. And so with these scans, the SPECT and the PET, we can look at blood flow, which is often decreased; therefore oxygen delivery to that part of the brain is decreased, and two, we can show that metabolism of the brain is decreased in certain areas.

Narrator

In the September 2003 issue of *Environmental Health Perspectives*, the journal of the National Institute of Environmental Health Sciences, Dr. Stanley Caress of the State University of West Georgia and Dr. Anne Steinemann of Georgia Institute of Technology published the results of their study of the prevalence of chemical sensitivity in the greater Atlanta area. In their random phone survey of over 1,500 people, they found that 12.6% of the respondents answered yes to the following question:

“Compared to other people, do you consider yourself unusually sensitive to everyday chemicals like those in household cleaning products, perfume, detergents, insect spray and things like that?”

When the California Department of Health Services had asked the same question about unusual sensitivity to everyday chemicals in a 1998 phone survey that included more than 4,000 respondents, they found that 15.9% of the respondents replied yes to this question.

Graphic appears on screen during above statement saying:

	Self-Reported Unusual Sensitivity to Chemicals
Caress/Steinemann Atlanta Study	12.6%
California Department of Health Services	15.9%

Narrator

Both the Atlanta and California surveys also asked this question:

“Have you ever been told by a doctor that you had environmental illness or MCS?”

In the Atlanta sample, 3.1% of the respondents answered yes to this question while in the California sample 6.3% answered yes.

Graphic appears on screen during above statement saying:

	Doctor-Diagnosed MCS Or Environmental Illness
Caress/Steinemann Atlanta Study	3.1%
California Department of Health Services	6.3%

Narrator

The Caress-Steinemann Atlanta study also asked the people who considered themselves unusually sensitive to chemicals which chemicals particularly bothered them. Products that

made the largest percentage of respondents sick were cleaning agents, 88.4%, pesticide, 81.2%, and perfume, 81.2%

Graphic appears on the screen during the above statement saying:

	Products that Produce Symptoms
Cleaning Agents	88.4%
Pesticides	81.2%
Perfume	81.2%

William Meggs, M.D., Ph.D.

Chemical sensitivity is not a rare or unusual condition. We now have five studies in this country that show that it's an extremely prevalent disorder. We want to keep these people in the workforce; we don't want these people on public assistance, and it's vitally important that we make our workplaces free of chemical pollutants.

Research

Narrator

In our headlong pursuit of better living through chemistry, we may be creating problems that have no clear solution. It is essential that research be undertaken to unravel the causes of multiple chemical sensitivity and seek ways to alleviate or reverse the condition.

Nicholas A. Ashford, Ph.D., J.D.
Professor of Policy & Technology, MIT

Another kind of research which is very important to do and which I am happy to say has accelerated in the last seven or eight years is the animal experiments that involve exposure to chemicals that have been reported to have initiated the problem in humans and looking at how animals behave is also extremely instructive. There is a theory called limbic kindling or Time-Dependent Sensitization which involves the sensitization of the brain by either a single exposure or a judiciously timed multiple exposure, and it turns out that you can reproduce neurological difficulties that occur in humans in rodents by exposure of rodents, for example, to certain

pesticides. So we are beginning to develop animal models that mirror the human experience, and of course this is also very, very useful.

Iris Bell, M.D., Ph.D.
Univ. of Arizona Health Sciences Center

The other very interesting point from the animal literature is that we can go back now into the animal work and do animal studies, which a number of groups are now beginning to do, to demonstrate sensitization to chemicals and to start picking apart what are the underlying neurochemical mechanisms, the pathways in the brain, the similarities and differences to drug sensitization where we'll be able to understand the process better and to try to look for ways to prevent sensitization in the first place. I mean, ultimately our goal with all this work is to find ways to help people either not become chemically sensitive or to become not sensitive if they have become an MCS patient.

Ron

Since I got sick with the pesticide exposure, I've spent thousands of dollars on medical care, and I'm practically broke. I think I've got \$30 in my pocket, and all my credit's ruined. I've got no job, and I'm living in a national forest.

It's really a struggle just to come up with the money to eat, and there's no end in sight. I mean, the future looks pretty bleak. I'm out here living in a tent, and there's almost nothing being done to study multiple chemical sensitivities. The future from where I am, I mean, it's beautiful out here, but I can't stay in a tent the rest of my life. I'd like to get back to some kind of a real life and some kind of engagement in my profession or some profession where I can at least feel like I'm accomplishing something. This isn't easy, just being in the woods. It may look like I'm leading the life of Riley, and it's beautiful out here, but it, it ain't a walk in the woods.

Credits

A
Johnson/Startzman
Film

Produced/Directed by
Alison Johnson

Artistic Director/
Cinematography by
Richard Startzman

Narrator
Brien White

Post-Production
Cine Video Productions

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