

For Chronic, Mysterious Illnesses, This Could Be a Lifesaver

Analysis by [Dr. Joseph Mercola](#)

✓ Fact Checked

September 10, 2023

STORY AT-A-GLANCE

- › Limbic hyperactivity or dysfunction appears to be a foundational core of the dysfunction and challenges associated with multiple chemical sensitivity (MCS), electromagnetic hypersensitivity (EHS), chronic fatigue syndrome (CFS), fibromyalgia (FM) and a number of other conditions
- › Your limbic system is the emotional and reactive part of your brain, responsible for filtering sensory and emotional information, and sorting that information into two distinct categories: safe or unsafe
- › When neurons along that neural network are damaged or not working functionally, your limbic system can start to categorize information that would not normally be considered dangerous as life-threatening; essentially, your brain gets stuck in the fight-flight-or-freeze mechanism
- › Limbic retraining helps you retrain your limbic system to respond in a functional manner, thereby reducing symptoms
- › Remember, though, even if your symptoms dissipate through limbic retraining, you still need to mitigate the cellular injury that toxic chemicals, mold or EMF exposure has inflicted

Editor's Note: This article is a reprint. It was originally published March 17, 2019.

Annie Hopper is a limbic retraining specialist. While you may never have heard this term, limbic hyperactivity or dysfunction appears to be a foundational core of the dysfunction

and challenges associated with multiple chemical sensitivity (MCS), electromagnetic hypersensitivity (EHS), chronic fatigue syndrome (CFS), fibromyalgia and a number of other conditions, and by retraining your limbic system to respond appropriately, symptoms may subside or vanish.

Hopper was herself homeless for a time due to her EHS, which made her unable to tolerate modern environments. I met Hopper in Peter Sullivan's electromagnetic field (EMF) tent at an autism conference run by Jenny McCarthy called Generation Rescue. Sullivan is an environmental health funder who focuses on toxins and wireless safety.

Sullivan had also benefited from Hopper's work. Intrigued, I read Hopper's book, "[Wired for Healing: Remapping the Brain to Recover From Chronic and Mysterious Illnesses](#)," which is a great resource.

Developing EHS – A Personal Account

Hopper describes the challenges that led to writing her book:

"It started in 2004. I was working as a core belief counsellor in Kelowna, British Columbia. I was working at an office that [had] mold ... [and] my office was located right next door to the janitor's supply room, where they held all the cleaning chemicals for the office, all those really heavy-duty industrial cleaners.

What I also didn't know was that the actual office that I was renting used to be a part of the janitor's supply room. They just put up a wall to make a little office space. It didn't have proper ventilation either.

I worked in that office for about five months. Over that period, I started to get progressively sick. Before that, [and] this is what we call like the perfect storm for a limbic system impairment ... I was in a car accident where I had a minor whiplash injury. That was probably about the fifth car accident prior to this mold and chemical exposure.

Anyway, for the five months that I was in this building, I started to progressively get symptoms, like anxiety, chronic muscle and joint pain, and this growing sensitivity to just everyday things in my environment, like perfumes and colognes. That's how it started ... Really, it felt like I was being literally poisoned by any kind of chemical exposure.

I moved out of the building eventually because I recognized that it was the building that was making me sick, but by that time, it was too late. The damage was already done ... [Then] I had what I call a tipping point. I was walking through a bookstore and by a scented candle display. Someone else might be OK with that, but ... at that point, something happened to my brain.

I went over the edge in terms of this fight-or-flight response that just did not stop. At that point, it felt like I was having a brain hemorrhage or something. Light hurt. Sound hurt. Smell hurt. Everything hurt ... When I woke up the next morning ... I couldn't wear the same clothes that I'd worn, because my brain was now picking up on the smallest amount of chemical residue from laundry detergent as potentially life-threatening.

That started a very bizarre kind of science fiction world where I really had to navigate how I did life. If I was walking down the street and someone happened to be doing their laundry and they had dryer exhaust going off, if I walked by that, I might go into convulsions.

It was very serious, hugely debilitating. I had to quit my job. I had to stop socializing. I was very much homebound and getting depressed. Just when I thought things couldn't get any worse, they did. What seemed like overnight, I developed EHS.

By this time, I've already got severe chemical sensitivities. I also have fibromyalgia. I was suffering from anxiety, insomnia and a host of other things, and then I developed this EMF sensitivity. What that meant was that my body could detect EMF."

Chemical Sensitivities and EHS Often Go Hand in Hand

It's a known fact that many who struggle with chemical sensitivities are at higher risk of EHS, and that was certainly Hopper's experience. In addition to a burning skin sensation, which is a very common symptom of EHS, she also lost her ability to speak, which she says is a severe symptom associated with both chemical sensitivities and EHS.

"When I started to talk, I would say something that really didn't make any sense. It wasn't actually what I was thinking," she says. "There was something very cognitively off as well. I had a lot of brain fog and just not being able to focus, inability to articulate, to think, to put thoughts together, to string a sentence together, all of that."

To survive, she had to get away from all these chemical and EMF triggers. At the time, she was living with her husband, James, in a condo in Kelowna, British Columbia. It was impossible to get away from wireless radiation. In the end, she had to resort to camping.

"Even before this time, I knew that my brain was being affected. It really made sense to me that my brain was not processing sensory information accurately anymore," she says.

"Somehow, the fight-or-flight centers in my brain were being triggered so much so that it was distorting some of the information that was coming into my brain and making this overreactive, overresponsive, hypervigilant reaction that was also affecting my immune system, my endocrine system, my neurology – all of it ..."

It made sense for me that it was some sort of brain injury, some form of brain trauma – something was wrong. I started to look at what area of the brain was responsible for sense of smell because, to me, that seemed like the right place to start."

The Role of Your Limbic System in EHS

As a result, Hopper began researching the limbic system, which is the emotional and reactive part of your brain, responsible for filtering sensory and emotional information, and sorting that information into two distinct categories: safe or unsafe.

"You can imagine that if any of those neurons along that neural network are damaged or not working functionally in any way, then that can start to categorize information that would not normally be considered dangerous as life-threatening," Hopper says.

This is an entirely unconscious response, of course. Essentially, your brain gets stuck in the fight-flight-or-freeze mechanism. She also researched neuroplasticity, which is your brain's ability to change.

She discovered there was a lot of research showing limbic system overactivation is common denominator for many different illnesses, including CFS, fibromyalgia, chemical sensitivities, depression and anxiety. While reading Dr. Norman Doidge's book, "The Brain That Changes Itself," she had a sudden revelation.

"He was talking about Dr. Jeffrey Schwartz, who is the guru for obsessive-compulsive disorder (OCD). Schwartz recognized that with OCD, there is a part of the brain that just wasn't functioning properly. That's what keeps people in this feeling of contamination or obsessive worrying. I thought, 'I don't have OCD, but certainly I feel like my mind or my brain is stuck.'"

Schwartz would scan his patients' brains to see how the brain was operating when they were having an OCD attack. He then gave them a series of self-directed neuroplasticity exercises to do at home, and rescanned their brain after a period of time. What he discovered was that their brains were actually being rewired.

The more they practiced these exercises, the more their brain changed, to the point where they actually reversed the changes that were happening during OCD. As a result, they were able to function normally again.

"It seemed to me like that was the right place to look," Hopper says. "I started to become my own personal guinea pig, looking at how could I change the limbic system, knowing that it was the feeling and reacting brain and knowing that it could be categorizing information or distorting information ... This is not unlike post-traumatic stress disorder, I think. Or traumatic brain injury ...

You know, I was just as surprised as anyone else, to be honest with you. When I started to notice changes in symptoms, my first thought was, 'Hallelujah' ... Through influencing this part of my brain and rewiring the brain, it actually dampened and reduced symptoms, and miraculously normalized my sensory perception.

When your sensory perception goes back to being normal, your body is no longer reacting to everything. That made it possible for me to live in the world again and be of the world again, and be an active participant in my life."

What Causes Limbic System Impairment?

So, what actually causes this limbic system impairment in the first place? As noted by Hopper, it could be a number of different things, including viral, bacterial, emotional or psychological stress. It could be chemical injury, mold or excessive EMF exposure. "Usually it's a combination of all of that that leads to what we call the perfect storm. These kinds of stresses are cumulative," she says.

Ultimately, her experience and research led her to develop the Dynamic Neural Retraining System (DNRS) course, which is now offered as a five-day interactive training program around North America and Europe. The program is also available online and as a 14-hour DVD series.

It's not a quick process. It can take many months of diligent work, but the end results are clearly worth the effort. Hopper recommends practicing the program daily for at least six months.

"It takes a while to change those neural networks. Even though people might start feeling changes within a few days or a few weeks or a few months, you really want to repeat those exercises on a regular basis to make those really permanent changes in the brain," she says.

The IMAGINE Acronym

Hopper came up with the acronym called "IMAGINE" to encapsulate the strategy of the program:

I stands for intention – The intention being to strengthen alternative neural circuitry and moving the focus away from symptoms in order to change the fight-flight-or-freeze response and normalize limbic system function.

M for motivation – It's not an overnight fix, so you need to find the motivation to do the exercises daily.

A for awareness and association – You need to become aware of how limbic system impairment affects your thoughts, emotions and behaviors. When you catch those thoughts, emotions and behaviors, you'll want to redirect your brain in that moment into an alternate route so that it doesn't continue down the neural pathways associated with the impairment.

You also need to look at your associations. What kind of associations have you created with stimuli that might be activating the threat centers in your brain on a continuous basis, and how can you change these associations?

G for gain – It's important to recognize the gains you make throughout your retraining process. "This is interesting because we all have an innate negativity bias, meaning we're going to notice what's going wrong before we notice what's going right," Hopper says. "If you have limbic system impairment, that negativity bias can be magnified because of the impairment itself."

I for incremental training – It's a form of neural shaping that helps strengthen alternative neurocircuitry by exposing yourself to small amounts of stimulus to help retrain your brain to respond differently to it.

N for neurological and emotional rehearsals – "There's a part of the program where we use our imagination and visualization," Hopper says. "The great thing about imagination is the brain does not know the difference between what's real and what's imagined. There is no end to how we can use our imagination to help in retraining the brain."

Using guided visualization, you can alter your neural chemistry. When in fight-flight-or-freeze response, you release a lot of cortisol, adrenaline and norepinephrine. Using this guided visualization technique, you can stop the production of those stress hormones and increase production of feel good hormones such as dopamine, oxytocin, serotonin and endorphins.

E for environmental awareness – Last but not least, you need to assess your day-to-day environment and create the most pristine and beautiful healing environment for yourself.

The Importance of Addressing Cellular Injury

In essence, the central principle of DNRS is that neurons that fire together, wire together. The purpose of many of these exercises is to rewire them in the direction of healing, because they've been hyperfacilitated in the direction of injury.

While testimonials attest to the effectiveness of Hopper's program, it's also important to realize that this does not address the cellular injury that EMFs cause. My view is that your limbic system alarms and alerts you in order for you to take steps to stop this cellular damage that is occurring.

So, I believe it's vitally important to address both your limbic dysfunction and the cellular damage that has occurred in your body. Hopper agrees that both angles are equally

important, but that limbic system retraining is the missing link for many:

"Let's take chemical injury for example. Is it affecting the tissues? Is it affecting the cellular level? Absolutely. Detoxification might be a good thing for most people, but for the person who has a limbic system injury, they'll still be sick even after they've detoxified ... or they might find that detoxification treatments actually heighten symptoms rather than lower symptoms, because the brain is stuck in that trauma state.

The cells of the body have also affected the brain. We could do all these treatments to help with the cellular, clearing the body cellularly from what is happening, yet for a lot of people, that will be enough. If they're still sick, then we really want to look at that brain component too."

So, remember, just because your symptoms dissipate, which the DNRS method will do for many, that doesn't necessarily mean you've mitigated the cellular injury EMF exposure has inflicted. Ideally, you want to do both. It's a combination of the two that's so crucial for complete healing.

Amazing Stories of Recovery

Hopper's book contains a number of accounts of remarkable recovery stories using her program. One not included in the book is Riley, who was bedridden for three years with severe chronic Lyme disease.

"He could not speak, could not eat. He was partially paralyzed. He was sensitive to light, to sound, to movement, to chemicals. He'd also had mold exposure. His mom kept him alive by feeding him little Dixie cups of soup.

He'd been to a lot of really great practitioners and had come a long way. They got him walking again and being able to talk, but he was still left with a lot of different issues, like food sensitivities, chemical sensitivities, some OCD, some movement disorder.

Riley came to the program. It took him about a year to recover from the symptoms that were left ... that were related to limbic system impairment. He's fully recovered. He traveled in Europe and went backpacking for a year. It's a pretty amazing story."

Hopper also recounts two other success stories, including one of a woman with a balance disorder who made a remarkable recovery on the program. Another is of a young woman who had severe POTS (postural orthostatic tachycardia syndrome) who went from being in a wheelchair to rollerblading. At present, Hopper has two research projects in the works.

One is an observational study at McMaster University in Hamilton, Ontario, Canada, involving 100 participants with a wide variety of medical diagnoses. This study aims to assess how the DNRS program affects quality of life and measure changes in symptom severity over the course of a year.

The second research initiative is taking place at the University of Calgary. In this study, they will review brain scans of people who have chronic fatigue, fibromyalgia or chemical sensitivities to get a baseline brain scan and then look at how the brain changes when someone is actually implementing the program for a period of at least six months.

According to Hopper, the estimated success rate of improving quality of life is about 90%. Hopefully, these studies validate that estimate.

More Information

While the program appears to be very effective, you do have to be motivated to do it. Being under a high degree of stress may also dampen results. Homelessness might be an example here. "But by all means, give it your best go. You might not get the results that you want to see as quickly, but that doesn't mean that you won't see results," Hopper says.

That said, she does not recommend the program for certain mental conditions, such as schizophrenia, or if you're currently going through extreme situational stress, such as if you're going through a court case, or grieving a loved one who just passed away.

"That might not be a really good time to start the course," she says. "It doesn't mean that it's impossible, but it might slow the progression down. I think that if someone's just passed away, you're dealing with grief or loss, there's a natural progression to grieving and a natural process where grieving takes place.

I don't think that would be a really great time to start the program, because we really want people to focus specifically on elevating their emotional state as much as they can, not only when they're doing the exercises and also throughout the day. If you're in the grieving process, it's kind of a little bit difficult to do."

Barring severe mental illness or extreme stress, if you've been suffering for a long time with a chronic and mysterious illness, be it CFS, fibromyalgia, chemical sensitivities, EHS, Lyme disease, food sensitivities or any number of other difficult-to-pin-down ailments, consider giving limbic system retraining a try.

"Don't give up hope. There's an answer. There's a way out of suffering," Hopper says. "I made a promise to myself when I was sick that if and when I find an answer, I would share that with the world. I'm doing my very best to do that. Our team is expanding more and more.

The DVD has been translated into seven languages. We have people from all over the world and over 65 countries report to us that they're recovering their health through limbic system retraining. All I would like to say is, 'Give it a try. Embrace the program.' I think that people will be pleasantly surprised with the results."

To get your feet wet and learn more about the science behind the DNRS program, pick up a copy of ["Wired for Healing: Remapping the Brain to Recover From Chronic and Mysterious Illnesses."](#) If you decide you want to go through the course, you can pick up

the 14-hour DVD course on Hopper's website, [RetainingTheBrain.com](https://www.RetainingTheBrain.com) (you can also opt to do the training online).

There you can also register for the five-day interactive training seminar. Since people coming to the program have a wide variety of sensitivities, great care is taken to ensure a safe and healthy environment for most participants.