Better Call Saul is the movie industry's first attempt at portraying electrical sensitivity.

Better Call Saul has the first fictional character with electrical hypersensitivity (EHS) on film and television. We review the three seasons where he appears, which is a mixture of facts and myths about the illness, but also some excellent filming and acting.

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The first season of Better Call Saul aired in 2015. The main character is James "Jimmy" McGill who is a lawyer with a criminal background. He is a small-time operator in Albuquerque, New Mexico where he is struggling to make ends meet and stay on the ethical side of the law. One prospective client rejects hiring him by saying that he is "the kind of lawyer guilty people hire."

Chuck McGill is Jimmy's older brother and everything Jimmy isn't. He is the senior partner in a large and successful law firm. He is highly respected, extremely smart and with a keen sense of what is proper behavior. Chuck is played by Michael McKean.
As the series starts, Chuck has been sick for a year with extreme electrical hypersensitivity (EHS). He had to take a leave of absence from his law firm and isolate himself in his home where he has disconnected the electricity. He uses an ice chest as a refrigerator, a camping stove for cooking and Coleman (white gas/gasoline) camping lanterns for lighting.

The story takes place in 2002. Wi-Fi is just emerging, smart phones are still years in the future and mobile phones are considered an add-on to people's landline telephone at home and at the office.

Cellular towers are many miles from each other and the ambient microwave pollution is at least a hundred times lower than it is today. In those days the radiation from power lines was a bigger concern than the towers.

Chuck is dependent on his brother Jimmy, who visits every day with groceries, ice and the newspaper. He makes Jimmy leave his mobile phone, wrist watch and car keys outside the house and touch a ground rod before he enters.

When Jimmy accidentally brings his mobile phone inside the house it greatly upsets Chuck, who uses a tong to throw the phone outside.

Sometimes Chuck wraps himself in an aluminum blanket that supposedly shields him. He avoids going outside, as that clearly troubles him.

In an early episode Jimmy brings Chuck crates of legal work. Chuck gets so excited he goes outside to get a box from Jimmy's car and doesn't have any problems with the power line until he becomes aware of it.

Viewers unfamiliar with EHS will be mystified by all this, as no explanation is given in the first four episodes.

Is this an accurate portrayal of EHS?

This reviewer has had severe EHS for nearly twenty years and knows dozens of other people with EHS. I have visited all my friends in their homes and seen how they live.

Have I seen people live like Chuck? Yes, but there is also some pure fiction in how Better Call Saul shows electrical sensitivity.

It is common for visitors to leave their cell phone in their car, but asking people to also leave their keys and wrist watches is just Hollywood. There were no wireless
smart watches in 2002 and they are the only kind that could be trouble to anyone other than the wearer.

Demanding that visitors touch a ground rod before they enter the house is another fiction. This may be the screenwriter who misunderstood that people with EHS sometimes ground themselves, but that is done for longer periods and not just briefly. Demanding other people ground themselves doesn't make sense.

Some people with severe EHS do live without electrical service, or with it just in a part of the house, such as for a refrigerator in the garage. It is not done as theatrically as Chuck did it, with wires sticking out of the breaker box. They either turn off the breakers or get the utility company to disconnect service out by the street.

For lighting they use battery powered lanterns or sometimes candles. Some use DC electricity from solar panels (without any inverter). This reviewer has not heard of people using gasoline lanterns indoors, since they pollute so much.

I have never encountered anyone using an aluminum blanket for protection. It made no sense the year 2002. Aluminum doesn't shield against power lines, you'd need mumetal or heavy steel for that. In more recent years, with the much higher levels of microwaves, some people wear special shielded clothing and cover their entire heads with mesh of copper or silver. An aluminum "poncho" won't protect the head.

As for chuck not noticing the power line when he is focused on the box in Jimmy's car, that sort of thing happens. EHS is not like a sixth sense. It takes time for symptoms to develop, especially when we are focused away from ourselves.

It's a difficult disease to live with, with many sources of pain to dodge, so it is no surprise people get anxious and on the lookout for the next attack, just as when living with an abusive parent or spouse. It is easy to go overboard, since it is impossible to know where the limit is, and it is better to be safe than sorry.

People with EHS as severe as Chuck's usually have trouble with cars. Jimmy's car is from the early 1990s or late 1980s and doesn't have all the electronics modern cars have, but it does have an alternator that ought to affect Chuck. People with severe EHS tend to feel better in the back seat, where they are further away from the alternator.
The hospital episode

In the fifth episode ("Alpine Shepherd Boy") two cops break into Chuck's house because they think he is a drug dealer. They hit Chuck with a stun gun, which gives him a powerful electric shock. Chuck passes out and is taken to a hospital.

Hospitals are dicey places for people with EHS. When Jimmy arrives he gets the lights turned off and the electronics removed to help his brother.

The doctor believes EHS is a mental illness and wants Chuck transferred to a mental institution for a thirty day observation period. New Mexico law forbids involuntary commitment unless a family member consents, or the patient is "a danger to self or others." Despite heavy pressure, Jimmy won't commit Chuck.

The doctor secretly brings a mobile phone into the room to "prove" to Jimmy that Chuck can't tell the difference. It looks like she is right. She certainly thinks so.

This is actually a very poor test. The mobile phones available in 2002 transmitted infrequently (every 15 minutes or so) when not actively used for a call. The radiation level the rest of the time is much lower, though it can still affect some people. Chuck is already in so much pain that it would be impossible for him to tell the difference. Again, EHS is not like an extra sense.
It is also unlikely that a real doctor would try such a stunt. Yes, doctors can be ignorant and arrogant about controversial illnesses, but they tend to be more responsible just to be safe.

**The second season**

There isn't much about Chuck's illness in the second season. In the last episode Chuck hits his head and is taken to the hospital. He is seen by the same physician as in the first season. She insists that they scan his head with a scanner. Chuck refuses, citing the very high levels of electromagnetic radiation it would subject him to. The physician violently forces Chuck into the machine with the help of some orderlies. The scanner leaves Chuck unconscious for twenty hours. The physician is busy absolving herself of any responsibility.

This scenario is far removed from real life in America, and hopefully the rest of the world. No physician would force a patient like that. It is true that people with severe EHS will go to great lengths to avoid medical scanners, as there are stories about how they've hurt patients with EHS.
The last episode of the season sees Chuck covering the walls of his living room with the aluminum blankets. It turns out he does it to play on Jimmy's suspicion that Chuck is nuts, and not because he needs to.

**The third season**

The third season goes in for the kill on whether Chuck is mentally ill or not, and thus the legitimacy of electrical sensitivities, as portrayed by the series.

Chuck says that "anything with a battery" is a problem for him, including the batteries themselves. He is seen struggling to hold a D cell battery and has to shield a tape recorder with aluminum foil, even though it is not turned on.

The pivotal moment for Chuck is in the "Chicanery" episode where Jimmy secretly places a cell phone battery in Chuck's pocket. Chuck does not notice the battery, which Jimmy uses to maximum effect to rattle his brother and discredit him. This starts a series of events that eventually destroys Chuck.

Chuck wonders if he really is mentally sick and goes to a doctor who prescribes him some medication and teaches him coping tricks to divert his attention from triggers. Those methods usually also involve the patient telling himself and everybody that he is well.
It seemingly works. Chuck has the lights on at home, life looks normal again, but he can't keep it up. After 29 days he falters, and is worse than before.

Meanwhile, the managing partner at Chuck's law firm has to protect the firm and forces Chuck to retire. This is a hard blow, as the firm was his life.

All these stresses finally get to Chuck who goes berserk in the final episode of the season ("Lantern").

**Comments to the third season**

The third season's events revolve around whether a battery can affect someone. This seems to be an issue for very few people with EHS and is controversial within the EHS community.

Batteries do not radiate when they are not powering anything, since there is no current. However, batteries with steel casing are often magnetized, so they are weak magnets, which may affect some sensitive people if they hold them in their hands.

Lithium batteries, like the one slipped into Chuck's pocket, do not have a steel casing and cannot be magnetized.

In real life, it is thus plausible that someone has problems with a D cell battery and not with a lithium battery for a cell phone.

For more on these issues, see our detailed battery test on [www.eiwellspring.org/tech/BatteryRadiation.htm](http://www.eiwellspring.org/tech/BatteryRadiation.htm).

It is pure fiction that Chuck shields his tape recorder with an aluminum blanket. Aluminum does not at all shield static magnetic fields, or the low-frequency magnetic fields that such an electronic device would emit when it is running. (Aluminum works well for microwaves, such as from cell phones.)

In the "Chicanery" episode Chuck says that currents are what causes the problems. That is true, but there are also electric fields that do not need a current. He also contradicts himself, since the batteries bother him even with no current. But these things are probably well beyond what a lawyer would understand - not to speak of film people.
In the last episode ("Lantern") Chuck tries to figure out what bothers him in the house, despite that the breakers are off. If the electrical meter continues to spin, there really is some serious wiring error that could cause problems.

Turning the breakers off is sometimes not enough, since they do not disconnect all the wires. Sometimes sloppy electrical work or other problems can make this happen in the real world.

Someone as smart as Chuck would have bought a gaussmeter long ago. They were available by mail order in 2002 (RF meters not yet). But that would have bestowed some legitimacy on Chuck's illness, which the producers might not want?

There were also books available on fixing wiring problems (such as the 1995 book by Karl Riley). And there were consultants whom he could have hired to check the wiring. But, again, that would not fit with the portrayal of EHS as illegitimate.

The psychiatric treatment did not help Chuck. It may have made him worse. All those exposures he had while trying to act normal took their toll, so his house bothered him more than before. This reviewer knew a real person with EHS who also found temporary relief from psychiatric drugs, but then she became much worse. She had frequent seizures and eventually committed suicide.

Is Chuck McGill crazy?

Most viewers unfamiliar with EHS would probably conclude that Chuck is crazy already in the first season. The battery incidents in the third season should cement that.

By inference, people would also conclude that EHS is purely a mental illness. This is very unfortunate to those who really are sick.

EHS is a life-altering illness, and it can change a person just as other severe illnesses can, such as disfiguring burns, loss of limbs, becoming paralyzed, and so many other terrible ordeals. It is extra hard when the illness is poorly understood and the medical system is unhelpful or even hostile, as correctly shown in this series.

It is no great surprise that Chuck finally goes over the edge at the end. He has lost everything important to him, is left with no support (except a fat check), worse health than before and a home he no longer tolerates.

There are a lot of myths about how to cope with EHS floating around on today's social media. It is hard to know the difference.
People are desperate and the doctors have little help to offer, so it is no wonder people seek out security blankets. The placebo effect can work on people with EHS just as it can for so many other illnesses. There were several placebo devices available already in 2002. Unfortunately, this can make the illness itself look illegitimate to outsiders, such as the screenwriters.

The best EHS scenes

Filming an illness that is invisible is a great challenge. Better Call Saul actually does it quite well, despite the factual problems.

The best EHS scene in the entire series appears in the start of the "Chicanery" episode (third season). Chuck hosts his ex-wife for dinner and is determined not to let her know about his illness. (A common issue due to the stigma.) She pulls out her mobile phone and talks to someone while she keeps following Chuck around the house as he is desperately trying to get some distance from her phone.

This sequence is beautifully filmed and acted. It vividly shows a situation familiar to people with EHS when they visit family or public places.

Another classic scene with a familiar situation, is in the "Slip" episode (third season), where Chuck walks down the freezer aisle in a grocery store. This is also done remarkably well.

These two scenes could have such a different meaning if the series wasn't falsely promoting that EHS is "all in their head."

The framing of Chuck McGill

The DVDs contain short videos about the making of the series. The episodes also have an alternate soundtrack where producers, screenwriters and members of the cast discuss each episode as it rolls.

We also found an interview with actor Michael McKean in Esquire magazine.

This reviewer found nothing to answer the questions: Why did they choose EHS as Chuck's illness? Why did they portray EHS as a mental illness? And how did they research EHS?

Why did they choose a controversial illness that is poorly understood? The basic plot of the series would work if Chuck had schizophrenia, maybe even cancer. Did they need something "mysterious" to get attention for the first episodes? Did they
need an illness that makes it socially acceptable to let Jimmy destroy Chuck publicly? Did the mobile industry pay them to discredit people with EHS? What brought EHS to the attention of the producers?

The extra materials on the DVDs discuss how much effort was spent on getting the right camera angles, the right props, the lighting, costumes, etc. They apparently also sat through recordings of real court hearings to learn the lingo, mannerisms and procedures.

But this reviewer didn't find anything at all about how they researched EHS. Television series like Star Trek and Big Bang Theory have science advisors to keep the stories plausible. When Todd Haynes made the film Safe he travelled to visit people with chemical sensitivities (MCS). The makers of Dallas Buyers Club visited the gay communities.

What did the makers of Better Call Saul do? They got many things right, but also a lot of them wrong. And they decided to paint EHS as a mental illness, thereby promoting ignorance and hostility towards a minority that already is treated poorly.

They obviously looked into what life with EHS can be like. Did they actually visit and talk to any? Or did they just lurk around on some of the Facebook groups? A lot of myths float around there, perhaps even more than most such places, since there is so little funding available for proper research and people can be desperate for answers.

At least they chose Chuck to be a successful, respected and highly capable lawyer, who obviously didn't "need" to be sick to "get attention," and thus more acceptable to the audience. (Unlike the protagonist of the 1995 film Safe.)

But Better Call Saul is irresponsibly promoting psychiatric diagnosis of people with EHS, doing secret "testing" by exposing them and is perpetuating stereotypes that support a hostile environment against those who suffer from EHS in real life.

More information

For a look at real-world EHS see www.eiwellspring.org/health/IntroductionToEHS.htm.

Other reviews of film and television depicting people with environmental or chronic illnesses are available at www.eiwellspring.org/filmreviews.html.
Other articles about media hostility and their consequences are at
www.eiwellspring.org/media.html.