

**STATE OF NEW MEXICO
COUNTY OF SANTA FE
IN THE FIRST JUDICIAL DISTRICT COURT**

No. D-101-CV-2010-00029

ARTHUR FIRSTENBERG,

Plaintiff,

v.

RAPHAELA MONRIBOT and ROBIN LEITH,

Defendants.

**Order on Motions to Exclude Expert Testimony under
Daubert/Alberico¹**

The Court has considered competing motions to exclude evidence concerning causation from Plaintiff's experts Drs. Elliott and Singer and from Defendants' expert Dr. Staudenmayer. The Court has reviewed the briefs, authorities, and exhibits submitted on this issue. The Court has reviewed the reports and affidavits submitted by the parties' experts on this issue and has heard testimony from the witnesses called by the parties. The dispute in this case centers on whether the opinions are reliable and therefore admissible as scientific knowledge under Alberico's third prerequisite.²

¹ *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 597 (1993); *State v. Alberico*, 116 N.M. 156, 861 P.2d 192 (1993).

² *Alberico*, 116 N.M. at 167, 861 P.2d at 203 ("When scientific evidence is employed as a means of obtaining or analyzing data, the trial court must determine whether the scientific technique is based upon well-recognized scientific principle and whether it is capable of supporting opinions based upon reasonable probability rather than conjecture. . . . Thus, the focus should not be solely on whether the scientific technique has gained general acceptance within its particular field. Rather, it should be on the validity and the soundness of the scientific method used to generate the evidence." (Citation omitted.)

Background

Plaintiff suffers a variety of adverse health effects, some very serious, which he claims arose from his electromagnetic sensitivity (“EMS”).^{3,4} EMS is “a medically unexplained illness in which subjective symptoms are reported following exposure to electrical devices.”⁵ Plaintiff further contends the adverse health effects he sustained were triggered by exposure to electromagnetic fields generated by the utilization of electrical equipment⁶ by his neighbor, Defendant Monribot, during her tenancy in Defendant Leith’s house. The electronic devices about which Plaintiff complains include cordless telephones, computer equipment, household Wi-Fi routers and modem(s) for a computer, dimmer switches, chargers for electronic equipment, a microcell, and so forth⁷ – all common-place devices ubiquitous in our community.⁸ Plaintiff claims that his symptoms were much worse during Defendant Monribot’s tenancy in the house,

³ This condition is also referred to as “electromagnetic hypersensitivity” (“EHS”). It may be more properly called Idiopathic Environmental Intolerance attributed to electromagnetic fields (“IEI-EMF”). G. James Rubin, Rosa Nieto-Hernandez, & Simon Wessely, *Idiopathic Environmental Intolerance Attributed to Electromagnetic Fields (Formerly ‘Electromagnetic Hypersensitivity’): An Updated Systematic Review of Provocation Studies*, 31 *Bioelectromagnetics* 1 (2010) (hereinafter “Rubin 2010”). Regardless of the potentially erroneous causality inherent in the EHS or EMS appellation, those acronyms are used throughout because they are commonly used in the literature.

⁴ The issue addressed in this Order is not whether Plaintiff suffered adverse health effects. The Court has no doubt that Plaintiff did suffer the ill effects that he says he suffered. As noted by the World Health Organization (“WHO”): “The symptoms [of EHS] are certainly real and can vary widely in their severity. Whatever its cause, EHS can be a disabling problem for the affected individual.” WHO, *Electromagnetic fields and public health*, FACT SHEET NO. 296, p. 2-3 (December 2005) (hereinafter WHO Fact Sheet”). The issue is whether there is scientifically reliable evidence showing that the cause of EHS is low level electromagnetic fields exposure.

⁵ Rubin 2011 at 1. *See also*: WHO Fact Sheet, p. 1: “EHS is characterized by a variety of non-specific symptoms, which afflicted individuals attribute to exposure to EMF” [electromagnetic field] sources.

⁶ Electrical equipment is equipment which generates electric, magnetic or electromagnetic fields. In this case the equipment at issue is not high voltage lines or large cell phone towers or dishes.

⁷ Plaintiff or his experts frequently mention cell phones. The Court has previously ruled that issues as to cell phones are preempted; therefore there is no legal discussion of cell phones in this order.

⁸ WHO *Electromagnetic Hypersensitivity: Proceedings International Workshop on EMF Hypersensitivity*, Prague, Czech Republic, October 25-27, 2004, p. 1 (hereinafter “WHO Prague Proceedings”).

but Defendant Leith has attested that she used similar equipment when she lived in the house prior to Defendant Monribot. Plaintiff's house was at one time commonly owned with Defendant Leith's house. The two houses continue to be connected by a single electrical drop which comes from the transmission pole to the Leith house and then to the Firstenberg house. In addition, the two houses have common water and gas pipes.

General Science on IEI-EMF

The parties have presented numerous competing articles on the issue of whether there is a valid scientific basis for claiming that exposure to electromagnetic fields causes injury. The symptoms reported are generally dermatological or things like fatigue, tiredness, concentration difficulties, dizziness, nausea, heart palpitation, and digestive disturbances.⁹ The WHO Fact Sheet stated that EHS is "characterized by a range of non-specific symptoms that lack apparent toxicological or physiological basis or independent verification."¹⁰ In 2006 the WHO noted that "EHS has been a particularly contentious issue for a number of years."¹¹

The WHO Prague Proceedings conducted a comprehensive review of the scientific evidence to determine if there were a relationship between EMF exposure and the symptoms reported by EHS individuals.¹² Individuals of all leanings on the issue were invited to participate. The conclusions reached were:

- The majority of studies indicate that idiopathic environmental intolerance individuals cannot detect EMF exposures any more accurately than non-IEI individuals.

⁹ Plaintiff also reports unusual symptoms such as closing of the throat and lower back pain.

¹⁰ WHO Fact Sheet, p. 1.

¹¹ WHO Prague Proceedings, p. v.

¹² *Id.* at 2.

- By and large well controlled and conducted double-blind studies have shown that symptoms do not seem to be correlated with EMF exposure.
- There are some indicators that these symptoms may be due to pre-existing psychiatric conditions as well as stress reactions as a result of worrying about believed EMF health effects, rather than EMF exposure.¹³

The Working Group Report from the Prague Proceedings determined: “To date, experimental and epidemiological studies have failed to provide clear support for a causal relationship between electromagnetic fields and complaints.”¹⁴ More specifically the Report stated: “Provocation studies with double blind exposure sessions have failed to verify a causal relationship between electric, magnetic, or electromagnetic fields and complaints.”¹⁵

Rubin and others conducted an extensive study of data related to provocation studies which sought to determine whether exposure to EMF could trigger acute symptoms in IEI-EMF sufferers.¹⁶ Rubin concluded: “No robust evidence could be found to support this theory.”¹⁷ Rubin noted that while most of the sufferers of EMS attribute their condition to exposure to EMF, “most mainstream medical bodies maintain that there is not sufficient evidence to support this theory and that the symptoms experienced by sufferers are unrelated to the presence of electromagnetic fields.”¹⁸ Rubin’s update of his previous study led to the conclusion: “In our original review of 31 provocation studies for IEI-EMF, we reported being ‘unable to find any robust evidence to support the existence of (electro-magnetic hypersensitivity) as a biologic

¹³ *Id.* at 3.

¹⁴ *Id.* at 16.

¹⁵ *Id.* at 20.

¹⁶ Rubin 2010, p. 1.

¹⁷ *Id.*

¹⁸ *Id.* at p. 2.

entity' Five years and 15 experiments later, this update has failed to uncover any evidence which challenges that conclusion.”¹⁹

Rubin concluded in 2010:

To date, 46 studies involving 1175 volunteers with IEI-EMF have tested whether exposure to electro-magnetic fields can trigger the symptoms reported by this group. These studies have produced little evidence to suggest that this is the case or that individuals with IEI-EMF are particularly adept at detecting the presence of electromagnetic fields. On the other hand, many of these studies have found evidence that the placebo effect is a sufficient explanation for the acute symptoms reported in IEI-EMF. Thus while continued experimental research in this area will be required to clarify the role of chronic exposures and to test the effects of new varieties of electromagnetic emissions, the best evidence currently available suggests that IEI-EMF should not be viewed as a bioelectromagnetic phenomenon.²⁰

“Nocebo” effects are negative effects a person experiences when he expects something to do him harm, such as a side effect of a drug. Because sham exposures appear to trigger symptoms in EMS sufferers who are tested, it is likely that placebo effects account for the symptoms they experience in daily living.²¹

In 2011, Rubin and others undertook to study whether there was evidence that exposure to EMF triggers physiological or cognitive changes in persons who believe themselves to be EMS.²²

After a review of the literature on reported studies, Rubin stated:

This review found no reliable and consistent evidence to suggest that people with IEI-EMF experience any unusual physiological reactions as a result of exposure to EMF. The findings of this review are therefore in line with the results of previous reviews that have found no robust evidence to support a link between acute EMF exposures and symptom reporting in people with IEI-EMF.²³

¹⁹ *Id.* at p. 7 (citation omitted).

²⁰ *Id.* at 9.

²¹ *Id.* at 7.

²² G. James Rubin, Lena Hillert, Rosa Nieto-Hernandez, Eric van Rongen, & Gunnhild Oftedal, *Do People With Idiopathic Environmental Intolerance Attributed to Electromagnetic Fields Display Physiological Effects When Exposed to Electromagnetic Fields? A Systematic Review of Provocation Studies*, 32 *BIOELECTROMAGNETICS* 593 (2011) (hereinafter “Rubin 2011”).

²³ *Id.* at 606.

An article reviewing studies on the effects of cellular phone electromagnetic field on behavioral and neurophysiological measurements have reached a similar conclusion. There is no valid evidence of such effects.²⁴

The contrary evidence to which Plaintiff cites and on which his witnesses rely is not generally accepted and is not reported in journals that have received recognition as prestigious, accepted scientific journals. The main article cited, which post-dates the Rubin studies, is the McCarthy study which involved a single subject. In this study McCarthy was self-diagnosed with EMS. The Court is not persuaded by this article because of the fact that the percentage of correct responses was much lower than one would expect if she were accurately appraising when she was experiencing electromagnetic stimulation. *See* Affidavit of Herman Staudenmayer, Attached as Exhibit I to Defendants' Response filed June 18, 2012. Further the authors of the McCarthy study did nothing to try to replicate their findings. The failings of the other studies on which Plaintiff relies are discussed at length in the Rubin articles.

Based on the literature provided, the Court is of the opinion that the better scientific opinion is that found by the WHO, Rubin, and others who have concluded that experimental and epidemiological studies have failed to provide clear support for a causal relationship between electromagnetic fields and complaints of EMS.

²⁴ *See, e.g.,* Myoung Soo Kwon & Heikki Hamaainen, *Effects of Mobile Phone Electromagnetic Fields: Critical Evaluation of Behavioral and Neurophysiological Studies*, 32 *BIOELECTROMAGNETICS* 253, 268 (2011).

Legal Standard

This case is the type of case where the general medical community has not recognized the agent as toxic or as causing the injuries plaintiff alleges. *McClain v. Metabolife, Int'l., Inc.*, 401 F.3d 1233, 1239 (11th Cir. 2005). In these types of cases, New Mexico applies the standards set forth in *Daubert v. Merrell Dow Phar., Inc.*, 509 U.S. 579 (1993), for the admission of scientific testimony. *State v. Alberico*, 116 N.M. 156, 166, 861 P.2d 192, 202 (1993). The burden is on the proponent of the scientific evidence to establish that the evidence is reliable. *Id.* at 166, 168, 861 P.2d at 202, 204. As mentioned above, the issue in this case deals with the third *Alberico* requirement: reliability of the opinions. As stated by the Fourth Circuit: “Th[is] prong of this inquiry necessitates an examination of whether the reasoning or methodology underlying the expert's proffered opinion is reliable—that is, whether it is supported by adequate validation to render it trustworthy.” *Westberry v. Gislaved Gummi AB*, 178 F.3d 257, 260 (4th Cir. 1999). The question presented by the parties’ argument is what kinds of evidence must be shown to demonstrate trustworthiness.

State v. Anderson, 118 N.M. 284, 297-301, 881 P.2d 29, 42-46 (1994) sets forth criteria to judge whether evidence should be admissible:

1. Whether the Proffered Theory Can Be (and Has Been) Tested;
2. Whether the Theory Has Been Subjected to Peer Review and Publication;
3. Consideration of the Known or Potential Rate of Error of the Scientific Technique;
4. The Degree to which the Theory Is Accepted by the Relevant Scientific Community?

When the evidence offered by Plaintiff on the issue of general causation is reviewed in light of these criteria, it fails to meet the standards for admissibility. The theory has not been reliably tested. The studies that have been done fail to provide valid evidence of causation. The studies that have been done which support the theory have been the subject of criticism. Finally, as evidenced by the discussion from the WHO, there is no general acceptance of this theory.

In this case Plaintiff must show that both general and specific causation. *Andrews v. U.S. Steel Corp.*, 2011 -NMCA- 032, ¶ 9, 149 N.M. 461, 250 P.3d 887 (stating ‘General causation is whether a substance is capable of causing a particular injury or condition in the general population and specific causation is whether a substance caused a particular individual's injury.’). *Andrews* also quoted the Federal Judicial Center, Reference Manual on Scientific Evidence, Reference Guide on Medical Testimony, 481, 483 (2d. ed. 2000), for the proposition that “[g]eneral causation is established by demonstrating (usually by reference to a scientific publication) that exposure to the substance in question causes (or is capable of causing) disease” and that “[s]pecific, or individual, causation is established by demonstrating that a given exposure is the cause of an individual's disease.”

In this case the Court has concluded that the evidence on the issue of general causation falls short of the requirements under *Alberico* and its progeny. For this reason, Plaintiff has failed to meet his burden of demonstrating he has admissible evidence that will support his theory of causation. Because there is no evidence of general causation, Plaintiff cannot prevail. It is not therefore, necessary to discuss the evidence of specific causation.

Nevertheless, the Court notes that Plaintiff does not meet the criteria set forth in *Andrews*, 2011-NMCA-032, ¶ 9, 149 N.M. 461, 250 P.3d 887:

Scientific knowledge of the harmful level of exposure to a chemical, plus knowledge that the plaintiff was exposed to such quantities, are minimal facts necessary to sustain the plaintiffs' burden in a toxic tort case.

(Citations and quotations marks omitted.) *Andrews* relied on *Allen v. Pennsylvania Engineering Corp.*, 102 F.3d 194, 198-99 (5th Cir. 1996), which stated:

Scientific knowledge of the harmful level of exposure to a chemical, plus knowledge that the plaintiff was exposed to such quantities, are minimal facts necessary to sustain the plaintiffs' burden in a toxic tort case.

In the present case it is admitted that there is no evidence concerning the exact minimum level of exposure that is need to cause harm, Indeed, there seems to be no correlation between exposure and degree or certainty of harm. Plaintiff does not meet the *Andrews* requirement.

Findings of Fact

1. Plaintiff has failed to carry his burden of proof that the evidence is seeks to admit is scientifically reliable.
2. As determined by the World Health Organization and other reviewers, studies have failed to provide clear support for a causal relationship between electromagnetic fields and complaints of EMS.
3. The studies or tests relied upon by Plaintiff have methodological problems that negate their reliability.
4. Plaintiff cannot meet the requirement that he show general causation through admission of evidence that meets the *Alberico* test for reliability.
5. There is no evidence of dose response of the sort required by *Andrews*.

Conclusions of Law

1. Plaintiff has not met the burden imposed by *Alberico* with regard to the evidence he seeks to admit on the issue of general causation.
2. Defendants' Motion to Exclude the evidence from Drs. Elliott and Singer should be granted.
3. Without evidence of general causation, Plaintiff cannot prevail; therefore, summary judgment is appropriate.

Conclusion

For the reasons given above, the Plaintiff's expert testimony on medical causation will be excluded. Because this testimony has been excluded, Plaintiff cannot sustain his case and summary judgment is appropriate.²⁵ Defendants are instructed to draft and circulate an order granting their motion for summary judgment. If Plaintiff's counsel cannot approve the order as to form, he should file objections. Both the proposed order and the objections should be submitted to the Court via email by October 1, 2012.



Sarah M. Singleton, District Judge

On the date of acceptance for efilng, copies of the above order will be eserved on all counsel who have registered for eservice.

²⁵ Because of the disposition of the Defendants' motion, it is unnecessary to consider Plaintiff's motion to exclude Dr. Staudenmayer.