UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

KAY PATTESON and GARY PATTESON, **Plaintiffs,** **v.** **JOHN R. MALONEY, M.D.,** **Defendant.**	**Civil Action No. 10-1760 (JEB)**

MEMORANDUM OPINION

In 2008, Plaintiff Kay Patteson's doctor diagnosed her with tardive dyskinesia, a movement disorder characterized by repetitive, involuntary movements and uncontrollable muscular tics. Patteson then brought this suit against her former psychiatrist, Defendant John Maloney, M.D., who had prescribed Seroquel – an antipsychotic drug – to treat Patteson's insomnia in 2006. She claims that the Seroquel caused her tardive dyskinesia. To establish that causal link, Patteson relies on expert testimony both from medical researchers and from her own treating physicians.

Maloney now moves to exclude all testimony linking Seroquel to tardive dyskinesia. He argues that Patteson's expert testimony is unreliable under Federal Rule of Evidence 702 and the testimony should thus be excluded. In essence, Maloney contends that his expert's study – which shows no link between Seroquel and tardive dyskinesia – is scientifically more rigorous than that of Patteson's experts. The Court, however, finds that the science linking Seroquel to tardive dyskinesia is sufficiently reliable under Rule 702 to be admitted – and that Maloney's

argument goes to the weight of the testimony, not to its admissibility. The Court therefore denies the Motion.

I. Background

Patteson first sought treatment from Maloney on or about May 30, 2006. See Patteson v. AstraZeneca, LP (Patteson I), 876 F. Supp. 2d 27, 30 (D.D.C. 2012). At the time, she complained of "depression, anxiousness, chronic insomnia, and serious alcohol abuse/dependence." Id. Maloney eventually prescribed Seroquel to address Patteson's insomnia. See id.

Seroquel is a second-generation antipsychotic. Antipsychotics are typically used to treat psychoses; for example, Seroquel itself is approved for the treatment of schizophrenia and bipolar mania, as well as bipolar depression, bipolar maintenance, and major depressive disorder. See id. 30-31. Seroquel, however, is not currently approved for the treatment of insomnia, although such off-label prescription does not necessarily constitute negligence. See id. at 31; see generally Ortho Pharm. Corp. v. Cosprophar, Inc., 32 F.3d 690, 692 (2d Cir. 1994) ("FDA permits doctors to prescribe drugs for 'off-label' uses."); James M. Beck & Elizabeth D. Azari, FDA, Off-Label Use, and Informed Consent: Debunking Myths and Misconceptions, 53 Food & Drug L.J. 71, 76-77 (1998) ("Courts have repeatedly recognized the propriety of off-label use, and several states statutorily recognize off-label use in various contexts.") (footnote omitted).

"Second-generation" antipsychotics were engineered to treat psychoses with a lower risk of certain side effects, such as the risk of movement disorders like tardive dyskinesia. See Mot., Exh. 2 (Deposition of Dr. Thor W. Rak) at 15:23-16:10. Whether second-generation antipsychotics actually carry a lower (or no) risk of those side effects is a matter of research and debate among the medical community. Compare Opp., Exh. A (Affidavit of Dr. Robert Rosenheck) at 8 (side effects of second-generation antipsychotics are more or less the same as first-generation antipsychotics) with Rak Dep. at 123:23-124:15 (Seroquel cannot be shown to cause tardive dyskinesia). Nevertheless, Seroquel's

FDA-approved label includes warnings for many of those side effects, including a warning concerning the risk of tardive dyskinesia, a "syndrome of potentially irreversible, involuntary dyskinetic movements." See Rak Dep. at 11:6-9.

In April 2007, around 10 months after she began taking Seroquel, Patteson began experiencing difficulty walking. See Patteson I, 876 F. Supp. 2d at 31. In January and February of 2008, Patteson's doctors determined that tardive dyskinesia was most likely responsible for her symptoms and that Seroquel could be the cause. See id. at 31-32. Patteson subsequently sued Maloney in D.C. Superior Court in 2010. See id. at 32. She alleged that he had improperly managed her course of treatment and that her tardive dyskinesia was a side effect of the Seroquel. See Amended Compl., ¶¶ 46-48. The case was removed to federal court, and trial is currently scheduled for October 2013.

Patteson plans to call three experts to prove that Seroquel caused her tardive dyskinesia: Dr. Robert Rosenheck, a medical professor and researcher from Yale University School of Medicine, will testify generally that the link exists; and Drs. Steven Lo and Sudeshna Bose, who have been Patteson's treating physicians, will testify both that Seroquel can cause tardive dyskinesia generally and that the drug did, in fact, cause Patteson's condition. See Joint Pretrial Statement (JPS) at 12. Rosenheck will base his testimony on a study of second-generation antipsychotics that he co-authored and that was published in the New England Journal of Medicine, as well as on other published medical studies. See Rosenheck Aff. at 4. Lo and Bose will rely on their differential diagnoses of Patteson as well as medical literature to establish causation. See Opp., Exh. B (Affidavit of Dr. Steven Lo), ¶¶ 14, 15, 21; Exh. D (Deposition of Dr. Sudeshna Bose) at 14:7-15:16; JPS at 12. "Differential diagnosis" is the medical term for a diagnosis made by determining the potential causes of an ailment and then eliminating causes to reveal the most likely culprit. See Lo Aff., ¶ 15.

Maloney now moves *in limine* to exclude all testimony relating to causation. He contends that, under Federal Rule of Evidence 702, Patteson's expert testimony is unreliable and should not be admitted. Maloney argues, at bottom, that Patteson's expert studies are inadmissible because his own expert studies are better – that is, Maloney's studies are based on sounder scientific methodology. Defendant also maintains that, because Patteson's experts have not diagnosed other patients with Seroquel-induced tardive dyskinesia, such a diagnosis must not be accepted within the medical community and is inherently unreliable. At a minimum, Maloney asserts that the Court should hold a pretrial hearing to determine the admissibility of the causation testimony.

Because Patteson must prove causation to prevail on her medical-malpractice claim, excluding evidence of causation would, practically speaking, end her case.

II. Legal Standard

A district court has "'broad discretion in determining whether to admit or exclude expert testimony.'" United States *ex rel.* Miller v. Bill Harbert Int'l Constr., Inc., 608 F.3d 871, 895 (D.C. Cir. 2010) (quoting United States v. Gatling, 96 F.3d 1511, 1523 (D.C. Cir. 1996)). Federal Rule of Evidence 702, which governs the admissibility of such testimony, provides:

> A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:
>
> (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
>
> (b) the testimony is based on sufficient facts or data;
>
> (c) the testimony is the product of reliable principles and methods; and
>
> (d) the expert has reliably applied the principles and methods to the facts of the case.

Under Rule 702, trial courts act as gatekeepers who may admit expert testimony only if it is both relevant and reliable. See Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579, 589 (1993).

Here, Defendant concedes, for purposes of his Motion, that Plaintiff's experts are qualified and that the testimony is relevant. The only issue, then, is whether the testimony is reliable.

The trial judge has "considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable." Kumho Tire Co. v. Carmichael, 526 U.S. 137, 152 (1999); see also Daubert, 509 U.S. at 588 (noting "the liberal thrust of the Federal Rules and their general approach of relaxing the traditional barriers to 'opinion' testimony" in context of expert testimony) (internal quotation marks omitted).

In Daubert, the Supreme Court outlined four useful factors for evaluating the reliability of scientific testimony under Rule 702: "(1) whether the theory or technique can be and has been tested; (2) whether the theory or technique has been subjected to peer review and publication; (3) the method's known or potential rate of error; and (4) whether the theory or technique finds general acceptance in the relevant scientific community." Ambrosini v. Labarraque, 101 F.3d 129, 134 (D.C. Cir. 1996) (citing Daubert, 509 U.S. at 593-94). This "test of reliability is 'flexible,' and Daubert's list of specific factors neither necessarily nor exclusively applies to all experts or in every case." Kumho, 526 U.S. at 141. Rather, the gatekeeping inquiry is tied to the facts of each case. See Daubert, 509 U.S. at 591.

At the end of the day, the basic question posed by both Daubert and Rule 702 is this: Is the proposed expert testimony "ground[ed] in the methods and procedures of science" and likely to aid the jury, or is it mere "subjective belief or unsupported speculation," liable to waylay the finder of fact? Id. at 590.

III. Analysis

In this case, Patteson must offer two types of causation evidence, both of which are required to satisfy Rule 702 and Daubert: First, she must prove general causation – that is, that

Seroquel, in fact, can cause tardive dyskinesia. Second, she must prove specific causation – that is, that Seroquel caused her tardive dyskinesia. The Court will consider each separately.

A. General Causation

Maloney argues – despite Seroquel's FDA-approved label warning that it can cause tardive dyskinesia and a New England Journal of Medicine article to the same effect – that "[n]o scientific methodology has attributed Seroquel to causing tardive dyskinesia." Mot. at 4. He further maintains that the study he will proffer – a clinical trial conducted by AstraZeneca, which manufactures and sells Seroquel – uses a more rigorous methodology and hence is more reliable than the studies Patteson will offer. See Supp. to Mot. to Preclude at 8-10. While a jury may ultimately agree with this second argument, the sole question for the Court is whether Patteson's studies are sufficiently reliable under Rule 702 and Daubert to be admissible – not whether Patteson's studies trump Maloney's. In so determining, the Court will examine each Daubert factor in turn.

1. *Ability To Be Tested*

Patteson satisfies the first Daubert factor – *i.e.*, whether her theory can be and has been tested. The link between Seroquel and tardive dyskinesia has been tested by studying populations of patients taking the drug and the relative frequency of tardive dyskinesia in those populations compared to populations taking other medications. One such study, the Clinical Antipsychotic Trials for Intervention Effectiveness – or CATIE study – was conducted in part by one of Patteson's expert witnesses, Yale University School of Medicine Professor Dr. Rosenheck. See Rosenheck Aff. at 4. That study involved almost 2,000 patients in at least 57 sites across the United States. See id. at 5-8. The study compared both the effectiveness and the side effects of multiple antipsychotic drugs, including first- and second-generation

antipsychotics. See id. The data, according to Rosenheck, "to a reasonable degree of medical and scientific probability establish a causal connection between quetiapine [the active ingredient in Seroquel] and the development of TD [tardive dyskinesia]." Id. at 11. In other words, the link between Seroquel and tardive dyskinesia has been tested, and at least one reliable study shows that it exists.

2. *Subjected to Peer Review and Publication*

The CATIE study also satisfies the second factor, which asks if the theory was subjected to peer review and publication. That study was peer reviewed and published in the New England Journal of Medicine, one of the top-ranked medical journals in the United States, as well as in Archives of General Psychiatry, the American Journal of Psychiatry, and Health Affairs. See id. at 4. A similar study, published in the British Journal of Psychiatry, also found a link between Seroquel and tardive dyskinesia. See id. at 10. The rigors of peer review and publication, then, suggest that evidence linking Seroquel to tardive dyskinesia is reliable.

3. *Known or Potential Rate of Error*

As Maloney concedes, the third Daubert factor – whether the theory has a known or potential rate of error – is not useful in this case, which involves a general (and generally accepted) medical phenomenon rather than a testing methodology like fingerprinting or DNA testing.

4. *General Acceptance Within the Scientific Community*

The final factor looks at whether the theory enjoys general acceptance within the scientific community. Here, although Defendant's primary expert Dr. Thor Rak's contrary position shows that the medical community is not unanimous in agreeing on a causal link, there is sufficient acceptance for admissibility. To begin with, Seroquel's own FDA-approved label warns of tardive dyskinesia as a potential side effect. See Rak Dep. at 11:6-12:15, 13:7-15. In

addition, copious medical literature points to the fact that both Seroquel and other first- and second-generation antipsychotics can cause tardive dyskinesia. See Lo Aff., ¶ 21 (collecting studies). Perhaps the most potent evidence that the medical community generally understands that Seroquel can cause tardive dyskinesia is the fact that some of Maloney's own experts – as well as Maloney himself in his deposition – admit the link exists. See Maloney Dep. at 176:17-177:9; Opp., Exh. E (Dr. Brent G. Petty Report) at 1; Exh. F (Dr. Jeffrey Lieberman Report) at 5. The Court, accordingly, finds that the causal link between Seroquel and tardive dyskinesia is sufficiently accepted by the medical community to be reliable.

* * *

Having considered the factors, the Court concludes that the relevant theory has been tested, peer reviewed, and sufficiently accepted by the medical community. As the Court noted in Daubert, the Federal Rules have a "liberal thrust" and take the "general approach of relaxing the traditional barriers to 'opinion' testimony." Daubert, 509 U.S. at 588 (internal quotation marks omitted). Instead, "[v]igorous cross-examination" and "presentation of contrary evidence" are the "appropriate means of attacking shaky but admissible evidence." Id. at 596. So it is here. Patteson's proposed testimony is reliable, and the jury may decide for itself whose scientific evidence is more persuasive.

B. Specific Causation

Although Maloney challenges the reliability of the testimony of Drs. Lo and Bose, Patteson's experts on specific causation, he never actually contests the reliability of their method for determining specific causation: that is, the doctors' process of reaching a differential diagnosis. Instead, Maloney points to the facts that Lo and Bose have not diagnosed any other patients with Seroquel-induced tardive dyskinesia and that neither could identify a study linking

Seroquel to tardive dyskinesia where Seroquel was the only medication administered to patients. Although those arguments may be useful on cross-examination, they are not enough to bar testimony on specific causation under Rule 702 and Daubert.

All that Rule 702 and Daubert require is that the method used to arrive at a scientific conclusion be reliable and reliably applied. See Daubert, 509 U.S. at 595. "Pertinent evidence based on scientifically valid principles" will generally satisfy that demand. Id. at 597.

Here, the method used to determine that Seroquel caused Patteson's tardive dyskinesia was differential diagnosis. According to Lo, differential diagnosis involves "the creation of a list of possible and/or most likely causes for a patient's signs and symptoms, based on his/her medical history, examination findings, and ancillary testing." Lo Aff., ¶ 15. The doctor then eliminates options from the list until the most likely cause is found. Picture a whiteboard filled with possible medical culprits for a patient's symptoms – familiar to fans of the medical television drama House – and then watch each being methodically crossed off the list through testing and deduction until a single diagnosis remains.

"Most circuits have held that a reliable differential diagnosis satisfies Daubert and provides a valid foundation for admitting an expert opinion. The circuits reason that a differential diagnosis is a tested methodology, has been subjected to peer review/publication, does not frequently lead to incorrect results, and is generally accepted in the medical community." Turner v. Iowa Fire Equip. Co., 229 F.3d 1202, 1208 (8th Cir. 2000) (citing Westberry v. Gislaved Gummi AB, 178 F.3d 257, 262-63 (4th Cir. 1999)).

Given the prevalence and reliability of differential diagnoses, the Court will allow testimony from Patteson's treating physicians indicating that, in their opinion and according to their differential diagnoses, Seroquel caused Patteson's tardive dyskinesia.

C. Pretrial Hearing

Finally, because the Court believes that Plaintiffs' expert testimony easily clears the admissibility bar on causation, there is no reason to hold a pretrial Daubert hearing.

IV. Conclusion

For the aforementioned reasons, the Court will deny Defendant's Motion to Preclude Testimony Regarding Seroquel-Induced Tardive Dyskinesia. A separate Order consistent with this Opinion will be issued this day.

/s/ James E. Boasberg
JAMES E. BOASBERG
United States District Judge

Date: September 16, 2013