Superior Court of the State of Delaware

Jan R. Jurden Judge New Castle County Courthouse 500 North King Street, Suite 10400 Wilmington, Delaware 19801-3733 Telephone (302) 255-0665

February 5, 2014

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Date Submitted: January 27, 2014 Date Decided: February 5, 2014

RE: Aundre Michael Anderson by his Natural Mother and Next Friend, Cantana Anderson, and Cantana Anderson, Individually

v.

ATMI, Inc., Advanced Technology Materials, Inc., Epitronics Corporation, IR EPI Services, Inc., International Rectifier Corporation C.A. No. 10C-07-271-JRJ

Dear Counsel,

Pending before the Court are five *Daubert* motions. The Court has heard oral argument on one so far: Defendants' Motion to Exclude the Testimony of Plaintiffs' Experts Cynthia Bearer, M.D., Ph.D. and Linda Frazier, M.D., MPH. Given that trial in this matter is less than eight weeks away, the

¹ Defts.' Memo. in Support ("Memo."), Trans. ID 54374587. Drs. Frazier and Bearer theorize that Mrs. Anderson's exposure to workplace chemicals caused her preeclampsia and Aundre's neurodevelopmental abnormalities. Pltfs.' Memo. in Opp. ("Opp."), at 3. Defendants move to exclude Drs. Frazier and Bearer's testimony, arguing, *inter alia*: (1) the sources used as support for Drs. Frazier and Bearer's opinions regarding occupational exposure to mercury, lead, and arsenic as a cause of Mrs. Anderson's preeclampsia are unreliable and irrelevant; (2) neither Dr. Frazier nor Dr. Bearer are qualified as an expert in obstetrics by knowledge, skill experience, training or education and they are therefore unqualified to render expert opinions about the cause of Mrs. Anderson's preeclampsia; (3) Drs. Frazier and Bearer failed to perform a differential diagnosis and, therefore, "use circular reasoning to support their opinions"; (4) Drs. Frazier and Bearer incorrectly use SNAPPE-II and CRIB-II infant mortality scoring systems to evaluate causation; and, (5) Drs. Frazier and Bearer's repeated and incorrect conflation of mercury and lead will confuse the jury.

pretrial conference is on March 6, 2014, and mediation before Judge Davis is on February 12, 2014, there is not time to wait for the transcript of the motion hearing or to write a lengthy decision on the Frazier/Bearer motion. As set forth below, after considering the parties' oral arguments, extensive briefing and exhibits, and the recent *Tumlinson* decision,² the Court holds that the Frazier/Bearer opinions do not pass muster under *Daubert* and are therefore inadmissible.³

As the Court found in *Tumlinson*, there are numerous analytical gaps in Dr. Frazier's methodology that render her opinion irrelevant, unreliable, and inadmissible.⁴ Mrs. Anderson's preeclampsia and the addition of Dr. Bearer do not remedy the deficiencies with regard to causation, as detailed by the Court in *Tumlinson* and raised by Defendants here.⁵ As in *Tumlinson*, Dr. Frazier does not adequately "articulate her thought process, evaluation methods, and conclusions to establish reliability," and the studies she and Dr. Bearer rely upon in this case simply do not support their opinions and do not "fit" the case.⁷

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² Tumlinson v. Adv. Micro Devices, Inc., 2013 WL 7084888, at *1 (Del. Super. Oct. 15, 2013) (Silverman, J.), aff'd, --- A.2d ---, 2013 WL 6129791, at *1 (Del. Nov. 21, 2013).

³ "A witness may testify as an expert when qualified as an expert and the trial judge determines that the witness has

³ "A witness may testify as an expert when qualified as an expert and the trial judge determines that the witness has scientific, technical or other specialized knowledge that will assist the trier of fact in understanding evidence or in determining a fact at issue." *Eskin v. Carden*, 842 A.2d 1222, 1227 (Del. 2004) (en banc). Sitting as the gatekeeper, the trial judge must decide "that: (i) the witness is 'qualified as an expert by knowledge, skill experience, training or education'; (ii) the evidence is relevant and reliable; (iii) the expert's opinion is based upon information 'reasonably relied upon by experts in the particular field'...; (iv) the expert testimony will 'assist the trier of fact to understand the evidence or to determine a fact in issue'...; and (v) the expert testimony will not create unfair prejudice or confuse or mislead the jury." *Id.* (internal citation omitted). Essentially, "is the testimony relevant? [and] is the testimony reliable?" *Jones v. Astrazeneca, LP*, 2010 WL 1267114, at *6 (Del. Super. Mar. 31, 2010) (Slights, J.). The proffering party must establish by a preponderance of the evidence that the expert's testimony is admissible. *Bowen v. E.I. DuPont de Nemours & Co.*, 906 A.2d 787, 795 (Del. 2006) (en banc).

⁴ For instance, the trial court in *Tumlinson* found that "[i]n short, as the established scientific proof for causation decreases, an expert's methodology for forming her opinion must be increasingly detailed. Under Delaware precedents alone, none admits an opinion including as many untested extensions of published studies as Dr. Frazier's [....]"*Tumlinson*, 2013 WL 7084888, at *4; *see also, Tumlinson v. Adv. Micro Devices, Inc.*, 2012 WL 1415777, at *1 (Del. Super. Jan. 6, 2012) (Silverman, J.), *aff'd, in part, and remanded*, --- A.3d ---, 2013 WL 4399144 (Del. Aug, 16, 2013).

⁵ See Memo. 13-16; Reply 5-7.

⁶ Tumlinson, 2013 WL 7084888, at *11; see Memo. 13-14.

⁷ For example, in their report, Drs. Frazier and Bearer state:

At oral argument, Plaintiffs argued that Mrs. Anderson's preeclampsia makes *Tumlinson* inapposite. The Court disagrees. The preeclampsia makes the analytical gaps in Dr. Frazier's methodology even wider, and Plaintiffs' attempt to bridge those gaps with the addition of Dr. Bearer fails. As the Court found in *Tumlinson*, "courts require the expert to clearly define her methodology and application." Drs. Frazier and Bearer fail to do that at several points and as Judge Silverman aptly noted in *Tumlinson*, "no quantum of evidence can overcome that."

As in *Tumlinson*, the Court finds here that Dr. Frazier's untested hypothesis – that an adult's exposure to clean room chemicals caused their child's birth defects – is "untestable for *Daubert* purposes." Additionally, Dr. Bearer's opinion that exposure to clean room chemicals caused Mrs. Anderson's preeclampsia is also "untestable for Daubert purposes." Further, Drs. Frazier and Dr. Bearer's methods have not been subjected to the rigors of peer review and publication, ¹¹ the studies upon which the Drs. Frazier and Bearer's opinions rest do not support their opinions, ¹² and Drs. Frazier and Bearer failed to perform a complete differential diagnosis, but instead rely on *ipse dixit* reasoning. ¹³

which is the major metabolic product of IPA) induce oxidative stress in tissues including the placenta.

In support of this statement they cite eight references. The first reference does not involve a human placenta – it involves a female mouse spinal cord. The second reference involves a male rat brain and not a human placenta, and mercuric chloride instead of mercury vapor, which is what Mrs. Anderson was allegedly exposed. The third reference contains no reference to the effects of exposure on pregnancy, a human placenta, or preeclampsia. The remaining five references are similarly inapposite. *See* Memo. 15. For further examples, *see* Memo. 16; Scialli Aff. ¶¶ 15, 27-29, 39-40.

In order to establish the cause of a condition, an expert must not only be able to state the cause of a condition, the witness, or the party offering the testimony, must also be able to exclude other possible/putative causes. In scientific circles, this is known as performing a differential diagnosis. It is a commonly accepted method of addressing the issue of the origin or cause of a medical

⁸ Tumlinson, 2013 WL 7084888, at *6.

⁹ *Id*

¹⁰ *Id.* at *8. Defendants note that "[t]here are no published scientific studies showing that [Mrs. Anderson's] alleged exposures cause the neurodevelopmental abnormalities diagnosed in Aundre." Memo. 8.

¹¹ Tumlinson, 2013 WL 7084888, at *8-9; Scialli Reply Aff. ¶ 26, 31.

¹² See Memo. 14-18; Scialli Aff. ¶ 14.

¹³ In *Bowen v. E.I. DuPont*, the Court held that:

In conclusion, the "gaps" detailed by the Court in *Tumlinson* are present here as well. For the reasons set forth in *Tumlinson* and detailed above, the Frazier/Bearer opinions are irrelevant, unreliable, and, therefore, inadmissible under DRE 702.

IT IS SO ORDERED.

Very truly yours,

/s/Jan R. Jurden

Jan R. Jurden Judge

JRJ:mls

ce: Hon. Eric M. Davis Prothonotary

condition. 2005 WL 1952859, at *10 (Del. Super. June 23, 2005) (Toliver, J.), *aff* d, 906 A.2d 787 (Del. 2006) (en banc).

Here, Drs. Frazier and Bearer "cannot explain how they know that [Mrs. Anderson] experienced excessive oxidative stress except by circular reasoning that she *must* have experienced excessive oxidative stress because she developed preeclampsia and the development of preeclampsia is a demonstration of excessive oxidative stress." Memo. 19. Further, while vitamin D deficiency is a known contributing factor to preeclampsia, neither Dr. Frazier nor Dr. Bearer measured Mrs. Anderson's vitamin D levels and have otherwise failed to rule out vitamin D deficiency as a cause of Mrs. Anderson's preeclampsia. Memo. 18-20; Frazier Depo. Trans. at 263:10-15; Bearer Depo. Trans. at 157:2-4; Defts.' Reply 5.