**Supreme Court Case No. 82264-6**

**WASHINGTON STATE SUPREME COURT**

Julie Anderson, individually and on behalf of Dalton Anderson, a minor, and Darwin Anderson,

Appellant,

vs.

Akzo Nobel Coatings, Inc. and Keith Crockett,

Respondents

# APPELLANTS' OPENING BRIEF

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## I. INTRODUCTION

This matter is ripe for consideration by this Court including a close review and assessment of how the *Frye* evidentiary rule pertaining to scientific testimony is to be applied in the civil context in Washington. At present, the law is unclear and both the trial and appellate courts are at a loss as to the proper application of *Frye*. Moreover, many neighboring jurisdictions have jettisoned applying *Frye* altogether, and, instead, rely solely upon the evidentiary principles which have long been adopted to regulate the veracity of expert testimony. As set forth herein, a clear enunciation as to proper application of *Frye* in Washington is needed. And, in that regard, review and reversal of the trial court's orders is necessary to advance the interests of justice and fairness in this case.

The Anderson family filed suit against Akzo Nobel, a multi-billion dollar international paint making company, based upon negligence principles for the injuries suffered by Dalton, and based upon unlawful employment actions for the retaliatory discharge against his mother, Julie Anderson. At one point in the proceedings, Akzo Nobel argued that Ms. Anderson could be held comparatively at fault under RCW 4.22.070 for deciding to work, and perform the essential functions of her job, during pregnancy. The trial court agreed. Then later, the trial court dismissed Ms. Anderson's retaliatory discharge claim for procedural reasons related to the challenged and purported pre-filing requirements set forth under RCW 49.17.160.

At the motion *in limine* stage, the trial court ruled that the specific expert testimony related to the causation of Dalton's brain damage, from organic solvent exposure, was not generally accepted within the medical community and therefore inadmissible under *Frye*. At the same time, the trial court ruled that Akzo Nobel's medical experts could offer medical opinions that the cause of Dalton's brain damage was "genetic" even though Akzo Nobel's experts had no supportive testing and could not cite any supportive medical literature. After the *Frye* hearing, the testing for any genetic abnormalities came back negative.[1] Because the trial court's ruling in relation to the Anderson family's experts on causation proved dispositive, the matter was dismissed.

At the time of ruling on the evidentiary *Frye* related issues during a hearing on August 12, 2008, the trial court *sua sponte* offered to certify the issues for immediate review pursuant to RAP 2.3(b)(4) which notes that "the order involves a controlling question of law as to which there is substantial ground for difference of opinion and that immediate review of the order may materially advance the ultimate termination of the litigation." Even though that hearing was not recorded, at the next hearing, Akzo Nobel offered briefing and a proposed order consistent with the trial court's *sua sponte* offer of certification under RAP 2.3(b)(4).[2] For procedural reasons, in order to provide for a complete review of the record

[1] CP 808-17

[2] CP 792-98

including the rulings related to the retaliatory discharge, the Anderson family did not pursue an order of immediate certification of just the *Frye* related rulings. Of relevance, however, is the fact that the trial court believed that this matter meets the criterion for direct review set forth under RAP 2.3(b)(4).[3] In essence, even the trial court is not sure if the correct ruling was achieved below. It was not.

Ultimately, with respect to *Frye*, this Court is going to be asked to make a choice between three (3) options: (1) to follow a trend amongst many jurisdictions in moving away from the *Frye* standard altogether, (2) to follow a trend amongst other jurisdictions (including rulings of this Court) in focusing primarily and/or exclusively upon the methodology aspect to the *Frye* test for determining the admissibility of scientific testimony, or (3) regress away from the methodology approach and impose the strictest of *Frye* standards amongst any of the other jurisdictions within the country. No matter what choice this Court makes, based upon the facts of this case, the trial court should be reversed and this matter remanded for further proceedings on the merits.

## II. ASSIGNMENTS OF ERROR

#1. The trial court erred in holding that Ms. Anderson could be held comparatively at fault for causing Dalton's brain malformations simply for performing the essential functions of her job.

#2. The trial court erred and misapplied the *Frye* test when

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[3] *Id.*

excluding the Anderson family's causation witness on the issue of Dalton's brain malformations.

#3. The trial court erred in dismissing Ms. Anderson's retaliatory discharge claim when ruling that Ms. Anderson was required to follow RCW 4.16.160 prior to bringing a private cause of action for a retaliatory discharge.

## III. STATEMENT OF THE CASE

This case involves workplace safety issues and deviations on the part of Akzo Nobel which led to the brain damage which is suffered by eight (8) year old Dalton Anderson.[4] Dalton's mother, Julie Anderson, was an employee of Akzo Nobel.[5] Akzo Nobel is a multi-billion dollar international company involved in the manufacture, distribution, and sale of automobile paints.[6] The auto paints which are manufactured by Akzo Nobel include harmful chemicals known as organic solvents.[7] Akzo Nobel's own safety records and MSDS sheets acknowledge the potential harm which these organic solvents can cause including serious damage to the brain and kidneys.[8] Organic solvent exposure during pregnancy causes birth defects including brain damage.[9]

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[4] CP 103-52

[5] CP 103-52

[6] CP 103-52

[7] CP 103-52

[8] CP 577-768

[9] CP 577-768

There is virtually un-refuted evidence that Akzo Nobel failed to provide minimal safety precautions to employees such as Ms. Anderson.[10] Akzo Nobel failed to provide proper respiratory protection.[11] Akzo Nobel failed to provide proper protective gloves.[12] Akzo Nobel failed to provide appropriate safety training.[13] Akzo Nobel failed to institute proper safety policies.[14] Additionally, and at the same time, it is undisputed that during some of the timeframe that Ms. Anderson was pregnant with Dalton, the ventilation system at the Akzo Nobel facility went unchecked and was inoperable.[15]

Ms. Anderson began employment with Akzo Nobel on or about April 13, 1998.[16] Shortly thereafter, Ms. Anderson was progressively put in positions with increased responsibility and pay.[17] Ms. Anderson was continually noted as a quality employee and was even placed in position of supervision over other employees.[18] Encompassed within Ms. Anderson's responsibilities was involvement in paint mixing operations, and paint spill clean up when necessary, both of which she did routinely throughout

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[10] CP 356-76

[11] CP 356-76

[12] CP 356-76

[13] CP 356-76

[14] CP 356-76

[15] CP 356-76

[16] CP 103-52

[17] CP 103-52

[18] CP 103-52

the course of employment with Akzo Nobel and is documented in her employment records and the paint mixing logs.[19]

Sometime around the end of 1998, not long after first being hired, Ms. Anderson was informed by her supervisor, Keith Crockett, she did not need to wear a respirator when mixing toxic paint because the air monitoring that was conducted by Akzo Nobel headquarters had purportedly determined that there was no health threat as long as the ventilation system was operational.[20] Thereafter, Ms. Anderson mixed paint regularly without a respirator until learning that she was pregnant with Dalton on or around May 31, 1999.[21] Ms. Anderson then asked Mr. Crockett if it was safe to mix paint while she was pregnant, and Mr. Crockett told her that was fine, but that perhaps she should now wear a respirator.[22] Ms. Anderson mixed paint routinely throughout the course of her pregnancy while always using the same respirator.[23] Ms. Anderson's coworker, Laurinda Rowland, recalls that Ms. Anderson would mix paint several times a day.[24]

About eight (8) months later, Ms. Anderson gave birth to her son,

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[19] CP 103-52

[20] CP 103-52

[21] CP 103-52

[22] CP 103-52

[23] CP 103-52

[24] CP 68-69

Dalton.[25] As time passed, it became evident that Dalton suffered from medical abnormalities.[26] Ms. Anderson suspected that Dalton's injuries might be caused by the *in utero* toxic paint exposure and even hired lawyers to help her investigate the possibility.[27] The treating doctors repeatedly ruled out alternative causes of Dalton's malformations, but did not make any connection between the toxic exposures that occurred *in utero* at Akzo Nobel until March 24, 2004.[28] To this day, the treating doctors (and expert witnesses) cannot identify any other potential cause of Dalton's brain damage other than organic solvent exposure during Ms. Anderson's pregnancy.[29]

Ms. Anderson's suspicions with respect to Dalton's malformations prompted her to complain about the substandard safety practices to WISHA in 2003.[30] As a result, WISHA conducted inspections at the Pacific, Washington facility, noted several safety violations, and cited Akzo Nobel for poor safety practices.[31] From the WISHA and 3M investigators, Ms. Anderson learned that Akzo Nobel's respirator program was all wrong, and that the process utilized for collecting air monitoring data was skewed in such a way that resulted in inaccurately low exposure

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[25] CP 103-52

[26] CP 103-52

[27] CP 103-52

[28] CP 103-52

[29] CP 103-52

[30] CP 103-52

results.[32] Based upon testing that was conducted by Ms. Anderson in her capacity of HSE Coordinator, she learned that respirators were not only required while mixing paint, but that the respirators must be changed out after every 8 hours of usage, *i.e.* every day.[33]

Almost a year later, the safety conditions at Akzo Nobel had not gotten better, and Ms. Anderson complained again to WISHA in writing, on June 10, 2004, explaining that supervision had lied to safety inspectors about the conditions at the Pacific, Washington facility.[34] The form that Ms. Anderson filled out that, upon her election, the complaint to WISHA would not remain anonymous.[35] On or about June 29, 2004, the WISHA inspectors conducted a surprise inspection stemming from Ms. Anderson's formal complaint, and Akzo Nobel was again cited for an assortment of safety violations.[36] The next day, on June 30, 2004, Ms. Anderson's supervisors decided, after over six years of very successful employment with repeated promotions, and without instilling any form of progressive discipline, to terminate her employment because she had purportedly taken $40.00 worth of paint weeks earlier without permission.[37]

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[31] CP 103-52

[32] CP 103-52

[33] CP 103-52

[34] CP 103-52

[35] CP 103-52

[36] CP 103-52

[37] CP 103-52

Thereafter, on July 30, 2004, Ms. Anderson's supervisors explained to a WISHA investigator that one of the reasons that the safety standards were not met was because the HSE Coordinator, Ms. Anderson, was no longer with the company to provide training.[38] On or about August 12, 2004, Ms. Anderson received a letter from a WISHA investigator indicating that at the Pacific, Washington facility, "*it was determined that air monitoring in the warehouse was not necessary as employee exposure to organic solvents was found to be well below WIHA (sic) permissible limits during a previous inspection at this location.*"[39] Because Ms. Anderson had been the HSE Coordinator in charge of the air monitoring process (though not properly trained by Akzo Nobel), and because in 2003 she conducted proper air monitoring that determined WISHA's statements about exposure levels to be entirely inaccurate, she knew that the WISHA investigator had been duped by Akzo Nobel.[40] In the eyes of Ms. Anderson, turning to WISHA at that point was a lost cause.[41] Akzo Nobel had made Ms. Anderson out to be a liar, and there was very little that she could do.[42]

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[38] CP 103-52

[39] CP 103-52

[40] CP 103-52

[41] CP 103-52

[42] CP 103-52

## IV. ARGUMENT

### A. The trial court erred in ruling that Ms. Anderson could be held comparatively at fault for Dalton's brain malformations for performing the essential functions of her job while being pregnant.

According to Washington law, the existence of legal causation between two events is determined "on the facts of each case upon mixed considerations of logic, common sense, justice, policy and precedent." *Shah v. Allstate Ins. Co.*, 130 Wash. App. 74, 121, 121 P.3d 1204 (2005). In this instance, in that regard, Akzo Nobel argued, and the trial court agreed, that Ms. Anderson could be held comparatively at fault for Dalton's injuries because she decided to work and perform the essential functions of her job during pregnancy. According to Akzo Nobel:

> *...Ms. Anderson was repeatedly told by several witnesses not to mix paint while pregnant. And it is undisputed that there were warning labels on the cans of paint were mixed that contained warnings about pregnancy. So, if she really did mix paint while pregnant, not only did she ignore the admonitions of her supervisor and fellow employee, but she also ignored the warning label on every can of paint she mixed. Accordingly, she assumed the risk posed to her unborn child...*[43]

In truth, at all times Ms. Anderson followed Akzo Nobel's faulty safety policies, and in support of this argument, Akzo Nobel did not identify any specific act or evidence indicating that Ms. Anderson independently acted negligently in any way.[44] In contrast, the Anderson family argued to the

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[43] CP 155-76

[44] Akzo Nobel tried to claim that Ms. Anderson failed to wear a respirator but had no testimony supporting this contention for the timeframe that she was pregnant with

trial court that it is well established that it is against the law to prevent a woman from working or performing the essential functions of her job while pregnant.[45] *See* RCW 49.60.030 (prohibiting discrimination in employment). In fact, pregnancy is afforded the same employment protections as any other disability. *Id.* Additionally, the "Human Rights Commission determined that practices which impair a woman's employment opportunities because of pregnancy are discriminatory." *Johnson v. Goodyear Tire & Rubber*, 790 F. Supp. 1516, 1521 (1992) (changing assignments that provide same wages/benefits but compromise job security unlawful), citing, WAC 162-30-020(1) (unlawful to "Impose different terms and conditions of employment on a woman.") A disabled employee has a right to maintain employment as long as he or she can perform the essential functions of the position. *Kees v. Wallenstein*, 973 F. Supp. 1191 (W.D. Wash. 1997). But on this issue, the trial court disagreed and ruled that Ms. Anderson could be held at fault under RCW 4.22.070.

Akzo Nobel's attempt to employ the defense of pointing the finger at Ms. Anderson for showing up to work and doing the essential functions of her job runs counter to the express law and the anti-discrimination policies of the State of Washington. *Id.* Ms. Anderson has a right to

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Dalton. The declarations which were submitted by Akzo Nobel were lacking foundation in this regard.

[45] In related briefing, in response on the Statement for Direct Review, Akzo Nobel erroneously contended that these arguments were not raised before the trial court. As is reflected in CP 179-93, these exact arguments were raised by the Anderson family.

work, and a right work while pregnant. *Id.* Any purported instruction on the part of Ms. Anderson's supervisor, Mr. Crockett, or the employees under her supervision, that she was purportedly not supposed to be mixing paint while pregnant is correspondingly unlawful and therefore, as a matter of law and social policy, cannot be used to support Akzo Nobel's contention. *Id.* Allowing Akzo Nobel to point the finger at Ms. Anderson for exercising a right which is protected by law is contrary to social policy and cannot be asserted as the legal cause of an injury. *Id.* Because the trial court ruled that Ms. Anderson could be comparatively at fault for Dalton's injuries simply for performing the essential functions of her job while pregnant, the trial court erred and this matter should be reversed and remanded on this issue.[46]

### B. The trial court erred in ruling that the Anderson family's expert witness testimony about the cause of Dalton's brain malformations was to be excluded under *Frye*.

From the outset it must be noted that "Appellate review of a *Frye* ruling (issued after a *Frye* hearing) is *de novo*." *State v. Gregory*, 158 Wn.2d 759, 830, 147 P.3d 1201 (2006), citing, *State v. Gore*, 143 Wn.2d 288, 302, 21 P. 3d 262 (2001). In relation to the application of *Frye*, this Court recently explained that the "primary goal is to determine 'whether the evidence offered is based on established scientific methodology.'" *Id.*

[46] It should be noted that at one point Akzo Nobel argued that smoking caused Dalton's injuries but did not submit expert testimony in that respect.

at 829.[47] This Court further elaborated that "the scientific theory underlying the evidence and the technique and methodology used to implement it must be generally accepted in the scientific community for evidence to be admissible under *Frye*." *Id.* It was also stated by this Court in *Gregory* that "[o]nce a methodology is accepted in the scientific community, the application of the science to a particular case is a matter of weight and admissibility under ER 702, which allows qualified expert witnesses to testify if scientific, technical, or other specialized knowledge will assist the trier of fact." *Id.*

In contrast to this Court's holding in *Gregory* stating that the "primary goal" under *Frye* is to determine whether the expert testimony is based upon generally accepted "methodology". The trial court in this matter primarily followed the reasoning of an opinion out of Division III of the Court of Appeals, *Grant v. Boccia*, 133 Wn. App. 176, 137 P.3d 20 (2006), and placed the greatest emphasis upon the "causation opinion itself" rather than upon the underlying "methodology" which was relied upon by the Anderson family's experts. Inconsistently with *Gregory*, the trial court explained: "*Thus, for expert testimony to be admissible in Washington, the party offering such evidence must show that the causation opinion itself is accepted by a majority of the medical community.*"[48] In so holding, the trial court did not fully acknowledge this Court's dictate in

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[47] Current members of this Court who signed onto to this holding are Justices Alexander, Chambers, C. Johnson, J. Johnson, Owens, Sanders, Fairhurst, and Madsen.

[48] CP 779-91 & 825-31

*Gregory*, or precedent from Division I of the Court of Appeals such as *Bruns v. Paccar, Inc.*, 77 Wn. App. 201, 890 P.2d 469 (1995). In *Bruns*, Division I held that a "*Frye* inquiry addresses novel scientific methodology; it does not deal with medical opinion based upon established scientific technique." *Id.* at 215. It should be noted that the *Bruns* Court gave no weight to scrutinizing the specific scientific causation theory at issue. *Id.*

Additionally, when citing to and relying upon *Grant* which followed precedent from the Florida Court of Appeals, *Marsh v. Valyou*, 917 So. 313 (2005), the trial court did not recognize that *Marsh* was overturned (based upon faulty reasoning) by the Florida Supreme Court. *See Marsh v. Valyou*, 977 So. 2d 543, 549 (Fla. 2007). This Court's holding in *Gregory* is consistent with a trend in the case law as noted by the Florida Supreme Court. *Id.* In *Marsh*, as did this Court in *Gregory*, the Florida Supreme Court emphasized the methodology aspect of the *Frye* test as compared to challenges to the specific scientific theory at issue:

> [U]nder *Frye,* the inquiry must focus only on the general acceptance of the scientific principles and methodologies upon which an expert relies in rendering his or her opinion. **Certainly the opinion of the testifying expert need not be generally accepted as well. Otherwise, the utility of expert testimony would be entirely erased, and "opinion" testimony would not be opinion at all--it would simply be the recitation of recognized scientific principles to the fact finder....** We reaffirm our dedication to the principle that once the *Frye* test is satisfied through proof of general acceptance of the basis of an opinion, the expert's opinions are to be evaluated by the

> finder of fact and are properly assessed as a matter of weight, not admissibility. *See also Castillo,* 854 So.2d at 1276 (holding that the district court erred in considering "not just the underlying science, but the application of the data generated from that science in reaching the expert's ultimate conclusion"); *Berry,* 709 So.2d at 567 ("[W]hen the expert's opinion is well-founded and based upon generally accepted scientific principles and methodology, it is not necessary that the expert's opinion be generally accepted as well.").
>
> Trial courts must resist the temptation to usurp the jury's role in evaluating the credibility of experts and choosing between legitimate but conflicting scientific views. *See Castillo,* 854 So.2d at 1275 ("[I]t is important to emphasize that the weight to be given to stated scientific theories, and the resolution of legitimate but competing scientific views, are matters appropriately entrusted to the trier of fact.") (quoting *Berry,* 709 So.2d at 569 n. 14); *Rodriguez v. Feinstein,* 793 So.2d 1057, 1060 (Fla. 3d DCA 2001) (same). A challenge to the conclusions of Marsh's experts as to causation, rather than the methods used to reach those conclusions, is a proper issue for the trier of fact. *See U.S. Sugar,* 823 So.2d at 110; *Castillo,* 854 So.2d at 1270, 1272, 1276; *Rodriguez,* 793 So.2d at 1060 (recognizing that "to involve judges in an evaluation of the acceptability of an expert's opinions and conclusions would convert judges into fact-finders" to an extent not contemplated by Florida's *Frye* jurisprudence).

*Marsh*, 977 So. 2d at 549. Other courts from around the country that still use the *Frye* test are following the trend that emphasizes methodology not the causation opinion itself. *See In re Commitment of Simons,* 213 Ill.2d 523, 290 Ill.Dec. 610, 821 N.E.2d 1184 (2004) citing *Donaldson v. Central Illinois Public Service Co.,* 199 Ill.2d 63, 77-79, 262 Ill. Dec. 854, 767 N.E.2d 314 (2002) ("The *Frye* test applies only to "new" or "novel" scientific methodologies" and "generally speaking, a scientific methodology is considered "new" or "novel" if it is ""original or striking'" or 'does not resembl[e] something formerly known or used.'"); *State v.*

*Baby,* 404 Md. 220, 946 A.2d 463 (2008) (Stating that *Frye* hearing is needed if a "new scientific technique's validity is in controversy in the relevant scientific community."); *Grady v. Frito-Lay, Inc.,* 576 Pa. 546, 558-61, 839 A.2d 1038 (2003) (Proponent is not required to "prove that the scientific community has also generally accepted the expert's conclusion" but that proponent must show that the methodology has been generally accepted).

It should be further noted that other more recent case law from Division I does not clarify the conflict between the Washington appellate courts. *See Ruff v. Department of Labor and Industries*, 107 Wn. App. 289, 28 P. 3d 1 (2001). In *Ruff*, Division I explained that the "*Frye* rule is concerned only with whether the expert's underlying theories and methods are generally accepted. The result-the conclusion reached by the expert in the case at hand-is by definition fact-specific and need not be generally accepted in the scientific community." *Id.* at 300. And while Division III enunciated a similar rule of law in *Grant*, the courts are divided as to the actual meaning, in application, of the methodology principle of the *Frye* test. In *Ruff* and *Bruns*, Division I focused primarily and/or exclusively on the methodology underlying the expert testimony, whereas in *Grant*, Division III focused primarily and almost exclusively upon the specific scientific causation theory underlying the testimony.[49]

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[49] Recent published precedent indicates that Division II follows the methodology based analysis: "'The core concern...is only whether the evidence being offered is based on established scientific methodology." *In re Detention of Taylor*, 132 Wn. App. 827, 836, 134 P.3d 254 (2006).

The approach taken by Division III in *Grant* is in conflict with the approach taken by Division I in *Bruns*. The proper application of the *Frye* test in relation to the weight to be given to the methodology versus the specific scientific causation theory remains an issue. This Court is best suited to clarify and/or enunciate the correct rule of law in relation to the application of the *Frye* test for cases involving complex expert medical testimony. Clarification will facilitate and promote justice and provide plaintiffs and defendants alike the opportunity to present their case. It should also result in reversal of the trial court's order in this case.

**1. The Anderson family's expert witnesses:**

The experts for the Anderson family and Akzo Nobel agreed that *in utero* organic solvent exposure causes fetal brain malformations.[50] Experts for the Anderson family, Sohail Khattak, M.D., and Akzo Nobel, Gideon Koren, M.D., even joined in a study that applied the accepted methodology for determining whether organic solvent exposure causes major fetal malformations: *e.g. Pregnancy Outcome Following Gestational Exposure to Organic Solvents (1999).*[51] The study was published in one of the most prestigious medical journals in the world, JAMA, and concluded that pregnant women exposed to organic solvents in the workplace without proper protective gear are 13 times more likely

[50] CP 229-32

[51] CP 229-32

to give birth to children with major malformations.[52] Amongst malformations noted in the study a specific type of brain malformations, neuronal migration defects, were identified.[53] According to Dalton's treating physicians, Dalton suffers from a neuronal migration defect.[54]

The 1999 JAMA article proved that major fetal malformations are caused by *in utero* exposure to organic solvents.[55] Dr. Koren conceded that the 1999 JAMA article established that workplace exposure to organic solvents can cause brain maldevelopment, and that "*In the English dictionary brain development neuronal migration – neuronal migration is one of the thousands of ways that the brain may not develop appropriately.*"[56] And, interestingly, when deposed, Dr. Koren tried to deny the conclusion of his own study: "*we in fact never had a case of neuronal migration.*"[57] In truth, as is reflected in *Table 4* of the 1999 JAMA article, "*neuronal migration*" was one of the precise malformations which was identified by the study which was coauthored by Dr. Koren and Dr. Khattak.[58] And, more importantly, it has been generally established since at least 1999 that major fetal malformations, including brain

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[52] CP 229-32

[53] CP 229-32

[54] CP 209-16

[55] CP 209-355

[56] CP 577-768 (Exhibit 21 to Declaration of Beauregard (Koren Deposition Page 15 lines 14 to 16))

CP 577-768 (Exhibit 21 to Declaration of Beauregard (Koren Deposition Page 17 lines 14 to 15))

[58] CP 209-355

maldevelopment, are brought about by *in utero* workplace exposure to organic solvents.[59] When deposed, one of the expert neurologists noted that the 1999 JAMA article did in fact identify and include malformations of the brain:

> Q. I'm just going to ask you really quickly, showing you a copy of this paper, if you could tell me whether or not neuronal migration defects were indicated in the table of malformations noted with respect to that particular study under Table 4?
>
> A. Table 4. And they are in Table 4. Neuronal migration defect and focal cortical dysplasia, heterotopia.[60]

Despite the 1999 JAMA study and a plethora of other evidence, the trial court erroneously excluded the Anderson family's causation testimony based upon an incorrect application of *Frye*.

**2. Additional supportive law and evidence which was presented to the trial court:**

On more than one occasion, this Court has summarized the principles underpinning *Frye* as applied in Washington:

> Under *Frye*, a court is to determine if the evidence in question has a valid, scientific basis. Because judges do not have expertise required to decide whether a challenged scientific theory is correct, we defer to the judgment of scientists. This inquiry turns on the level of recognition accorded to the scientific principle involved – we look for *general acceptance* in the appropriate scientific community...Thus, we examine the record, available literature of **law reviews and other journals, and the cases of other jurisdictions.**

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[59] CP 229-32

[60] CP 577-768 (Exhibit 24 to Declaration of Beauregard (Glass Deposition Pages 64 to 66)).

*State v. Cauthron*, 120 Wash. 2d 979, 887-9, 846 P.2d 502 (1993) (emphasis added). Here, in this instance, assorted sources of evidence and law support the Anderson family's causation theory and the corresponding expert testimony which was offered before the trial court:

**a. Analogous case law already determined that the scientific foundation of Anderson family's claims is well established.**

A *Frye* challenge is arguably not even implicated because case law from another jurisdiction has already established that workplace exposure to organic solvents causes brain damage. *Berry v. CSX Transportation*, 709 So. 2d 552 (1998) (holding under *Frye* that workplace exposure to organic solvents causes brain damage was properly admissible expert testimony).[61] That same case also rejected, by analogy, essentially every

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[61] *Berry* was not an *in utero* exposure case but instead related to the exposed employees. It is well understood and Dr. Koren even opined that the organic solvents can impact fetuses at even lower exposure levels than the mother. (CP 577-62 - Exhibit 21 to Declaration of Beauregard (CP 577-62 - Koren Deposition Page 10 to 11)). Importantly, the *Berry* Court relied upon a wealth of supportive medical evidence and publications including the following:

Edward L. Baker, M.D., et al., *Neurobehavioral Effects of Solvents in Construction Painters,* 30 J. Occup. Med. 116 (1988)

Barbara Bazylewicz-Walczak, et al., *The Psychological Effects of Chronic Exposure to White Spirit in Rubber Industry Workers,* 3 Polish J. Occup. Med. 117 (1990)

Stig-Arne Elofsson, Ph.D., et al., *Exposure to Organic Solvents,* 6 Scand. J. Work Envtl. Health 239 (1980)

Evelin Escalona, M.D., et al., *Neurobehavioral Evaluation of Venezuelan Workers Exposed to Organic Solvent Mixtures,* 27 Am. J. Indus. Med. 15 (1995)

Anne T. Fidler, et al., *Neurobehavioral Effects of Occupational Exposure to Organic Solvents Among Construction Painters,* 44 Brit. J. Indus. Med. 292 (1987)

Helena Hanninen, et al., *Exposure to Organic Solvents and Neuropsychological Dysfunction: A Study on Monozygotic Twins,* 48 Brit. J. Indus. Med. 18 (1991)

Lisa A. Morrow, Ph.D., et al., *Alterations in Cognitive and Psychological Functioning After Organic Solvent Exposure,* 32 J. Occup. Med. 444 (1990)

argument presently being advanced by Akzo Nobel. *Id.* Originally, in *Berry*, the defendants successfully argued, and the trial court

> ...concluded that there remains a substantial disagreement within the scientific community as to whether or not organic solvents can cause brain damage. In reaching this conclusion, the court recited the findings of numerous epidemiological studies upon which the appellants relied. In these studies, the researchers found an association between exposure and injury, but used the seemingly equivocal term of "association" rather than causation. Moreover, these studies admitted the controversial nature of this subject, and several called for further investigation. The trial court was plainly troubled by the "qualifying phrases and disclaimers" used in the articles. This lead the trial court to the conclusion that there remains a substantial disagreement within the scientific community as to whether or not organic solvents, particularly the ones at issue in the instant case, can cause brain damage, particularly chronic toxic encephalopathy, of the nature allegedly experienced by the plaintiff[s] in [these] case[s]. Said another way, the Court concludes that it is *not* generally accepted that exposure to organic solvents causes the condition of which the plaintiff[s] complain.

*Id.* at 564. The appellate court reversed the trial court while explaining: "From epidemiological studies demonstrating an association, an epidemiologist may or may not infer that a causal relationship exists. However, the epidemiological studies themselves are not designed to demonstrate whether a particular agent *did* cause the disease, and the trial court erred in concluding that the studies were unreliable because they failed to establish causal relationship." *Id.* at 567. "If there are

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Lisa A. Morrow, Ph.D., et al., *A Distinct Pattern of Personality Disturbance Following Exposure to Mixtures of Organic Solvents,* 31 J. Occup. Med. 743 (1989)

Andreas Seeber, Neurobehavioral Toxicity of Long-Term Exposure to Tetrachloroethylene, 2 Neurotoxicology and Teratology 579 (1989).

weaknesses or technical deficiencies in the published epidemiological studies supporting the plaintiffs' experts' opinions as the railroad claims, those perceived deficiencies are appropriate matters upon which to examine and cross examine the experts at trial and, then, for consideration by the fact finder." *Id.* at 571.[62]

As for the applicable methodology, in *Berry*, one of the main experts for the plaintiffs, Dr. Baker, opined that "if an individual is exposed...to a concentration that is sufficient to cause acute symptomology (intoxication, light headedness, dizziness, inebriation) on a regular basis, that person is at risk for developing [brain damage]." *Id.* at 560. "He said it was a general consensus in the scientific community that there is a risk of [brain damage] in people excessively exposed to solvents." *Id.* Another expert for the plaintiffs, Dr. Kelly, opined that "headaches" and general lethargy indicated that the plaintiff "had been exposed to 'pretty high exposure levels occurring over a fairly long period

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[62] Akzo Nobel previously argued that because the data supporting the 1999 JAMA article cannot be located, that it is somehow unfair to allow the Anderson family to rely upon this published medical literature. At the same time, Akzo Nobel speculates that perhaps Dr. Khattak is responsible for the disposition of the data while failing to provide the Court with Dr. Khattak's actual testimony in that regard: "*They looked at, they called me several times on it and they asked me, but, you know, the policy for Sick Kids was very clear, that we're not to take any of that information home, and we didn't.* ***So I didn't have it.***" (CP 577-768 - Exhibit 22 to Declaration of Beauregard (Khattak Deposition Page 60 lines 21 to 25 to Page 61 lines 1 to 4)) Dr. Khattak also explained that Dr. Koren, as the Senior Scientist and head of the Sick Kids Hospital, was the actual scientist who was primarily responsible for maintaining that data: "*...the data is widely distributed when it is analyzed; obviously Dr. Koren looks at it...and the data is usually given if someone requires, or Dr. Koren asks some external individual to look at it at the time the copy of the data is provided.*" (CP 577-768 - Exhibit 22 to Declaration of Beauregard (Khattak Deposition Page 54 lines 12 to 25)) And according to Dr. Koren, the data, wherever it is, is quite reliable: "*The data published is competent in that sense that it reflect what happened to these children and family.*" (CP 577-768 - Exhibit 21 to Declaration of Beauregard (Koren Deposition Page 34 lines 4 to 6)) Moreover, Dr. Koren has a documented history of being sanctioned for misusing data. *Id.*

of time.'" *Id.* at 562. When reversing the trial court, the appellate court ruled that the experts for the plaintiffs had applied the appropriate and accepted methodology for retroactively assessing harmful levels of exposure to the plaintiffs. *Id.* at 571.

The *Berry* Court also rejected the argument that specific concentration measurements in the form of parts per million of organic solvents must be established to support a claim of this nature. *Id.* In *Berry*, a toxicological expert retained by the defense, Dr. Harbison,

> ...was generally of the opinion that the literature contained insufficient evidence of a real causal connection between long-term exposure to organic solvents and toxic encephalopathy because real exposures could not be determined without making accurate air quality measurements, and because only precisely controlled double blind studies could be expected to establish causation. **According to him, one should not use patient history to make the diagnosis but should use analytical data and be able to conduct measurements of the actual exposure received.** Contrary to Dr. Kelly, he opined that a patient's symptoms could not be used to measure exposure.

*Id.* at 563 (emphasis added). "Dr. Harbison opined that, before the toxicological scientific community would acknowledge the validity of an epidemiological study relating exposure to a disease, there would have to be a known verified exposure, valid testing that is objective, and this testing methodology must have been subjected to a double blind evaluation where neither the investigator not the individual who was being evaluated knew what the exposure was or what the potential outcome should be." *Id.*

In relation to the "dose response relationship" which was advocated by the defense, the *Berry* Court ultimately applied the symptom based assessment which was relied upon by the plaintiffs: "While, as Dr. Baker acknowledged in his proffered testimony, there continues to be scientific debate about the safe levels of exposure with respect to certain toxins and the degree of reversibility of the effect of exposure to the toxins, we find the epidemiological science and methodology underlying his testimony to be established, reliable, and well-founded." *Id.* at 568.

> Dr. Baker testified that the Occupational Safety and Health Administration (OSHA) has published recommended maximum safe exposure levels for the various solvents at issue in this case. OSHA has arrived at a number 350 parts per million as an eight-hour time-waited exposure for the workplace for TCA that is deemed to be a safe level. **Nonetheless, as Dr. Baker recognized, this level does not take into consideration solvent exposure through the skin. He opined that solvents penetrate the skin and can get into the body through percutaneous exposure as well as through inhalation exposure.** Thus, even a workplace allegedly below the safe level of 350 parts per million might nonetheless subject a worker to excessive exposure.
>
> Although he was uncertain of the exact biological "mechanism" by which these solvents cause damage, Dr. Baker offered a biologically plausible explanation. **He explained that solvents typically accumulate in fat-rich tissues and that the adipose tissues of the brain are tissues that have a high fat content. He postulated that since many organic solvents are highly lipid soluble, they can accumulate in the brain or in the adipose tissue.**

*Id.* at 561 (emphasis added). As to Dr. Baker's application of these principles and methodology for retrospectively assessing workplace exposure to organic solvents, the *Berry* Court agreed. On that basis, the

Florida Supreme Court reversed the trial court's *Frye* related ruling and sent the case back for further proceedings.

**b. Assorted additional publications by Dr. Koren are supportive:**

Dr. Koren authored another article proving that workplace exposure to organic solvents causes cognitive functioning problems to the children of expecting mothers: *Child Neurodevelopmental Outcome and Maternal Exposure to Solvents (2004).*[63] It is not disputed that Dalton has cognitive functioning problems.[64] When deposed, Dr. Koren tried to distinguish his own study from this case by explaining that "*none of the cases tested had an IQ so low as Dalton does.*"[65] Then, in the same deposition, Dr. Koren realized that he does not even know Dalton's IQ: "*So I don't know his exact IQ, not in the material I saw...*"[66] Dr. Koren also tried to distinguish his own study by claiming that Dalton was not in the correct class at school: "*Dalton is in special education class. None of the kids was in special education class.*"[67]

In other words, according to Dr. Koren, the data from his own study would support the facts of this case if Dalton were placed in regular

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[63] CP 232-40

[64] CP 577-82 (Exhibit 21 to Declaration of Beauregard (Koren Deposition Page 30 lines 22 to 23))

[65] CP 577-82 (Exhibit 21 to Declaration of Beauregard (Koren Deposition Page 30 lines 22 to 23))

[66] CP 577-82 (Exhibit 21 to Declaration of Beauregard (Koren Deposition Page 31 lines 7 to 8))

[67] CP 577-82 (Exhibit 21 to Declaration of Beauregard (Koren Deposition Page 31 lines 4 to 6))

classes at school.[68] In actuality and contrary to Dr. Koren's erroneous presumptions, at times, Dalton has been in regular education classes and therefore Dr. Koren's already meritless distinctions are even further without merit as applied to this case.[69] This additional study, above and beyond the JAMA study from 1999, proves and establishes that the scientific community accepts the fact that *in utero* exposure to organic solvents causes brain damage in the form of cognitive delays. Dalton has cognitive delays. In this regard, the *Frye* test is satisfied.

**c. Washington case law is supportive of the fact the occupational exposure to organic solvents can cause brain damage.**

Washington case law has already embraced the scientific principle that workplace exposure to neurotoxins (which includes organic solvents) causes brain damage. *Intalco v. Department of Labor & Industries*, 66 Wn. App. 644, 833 P.2d 390 (1992). In *Intalco*, several employees reported to their doctors with symptoms indicative of toxic exposure in the workplace. *Id.* at 648-53. The *Intalco* Court rejected the defense's argument that "the medical testimony was insufficient because the physicians could not identify the specific toxic agents that proximately caused the claimants' disease." *Id.* at 655. And the *Intalco* Court found

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[68] Dr. Koren also claimed that none of the children in the 2004 study suffered from a neuronal migration defect, admitted that the only way to diagnose a neuronal migration defect was by reviewing an MRI, and also admitted that he had not conducted a single MRI of any of the children in the 2004 study. (CP 577-82 - Exhibit 21 to Declaration of Beauregard (CP 577-82 - Koren Deposition Pages 32 to 33)) In other words, Dr. Koren was just guessing about how the brains of the children from the 2004 study appear on an MRI. *Id.*

[69] CP 455-91

that expert testimony was admissible while noting that the "evidence is sufficient to prove causation if, from the facts and circumstances and the medical testimony given, a reasonable person can infer that a causal connection exists." *Id.* In sum, in *Intalco*, the Court held that occupational organic solvent exposure can cause neuro-cognitive problems, *i.e.* brain damage, and such a causation theory was admissible. *Id.*

**d. A Law Review Article from a prestigious local Washington law school is supportive.**

According to an article which was published by the University of Puget Sound Law School in 1994 on the issue of prenatal claims, *Liability for Prenatal harm in the Workplace: The Need for Reform*, "if experts are willing to testify that such a link exists, it is for the jury to decide whether to credit such testimony." *Id.* at 302. The article goes on to explain that "Other jurisdictions have also been very reluctant to take prenatal injury cases away from a jury on the basis of tenuous causation evidence, preferring to leave the issue to a battle of the experts." *Id.* With respect to toxic exposure and the first thirty (30) weeks of pregnancy, the article explains that "fetotoxicity may occur whereby the mother's workplace exposure to toxins is transmitted to the fetus resulting in injury." *Id.* at 290-1. "There is an extensive base of scientific literature respecting transplacental migration and toxicity of various chemical compounds, including animal and human studies. There has been litigation alleging direct, post-organogensis injury to the fetus caused by workplace

exposures of the mother to several agents, including carbon monoxide, mercury, and hepatitis as well as 'unspecified contaminants.'" *Id.* at 291. This article, which is very much on point, is highly persuasive and lends to the conclusion that medical causation in this case should have been left for the jury to determine.

**e. The MSDS sheets which were taken directly from the Akzo Nobel workplace establish that organic solvents cause harm.**

Material Safety Data Sheets (MSDS) are official workplace safety documents which are used to asses the dangers associated with workplace chemicals. According to an MSDS sheet associated with a product often used by Ms. Anderson for cleaning spills and damages shipments: "**Absorption thru skin may be harmful. Studies with animals indicate this product can cause damage to fetus.**"[70] This MSDS sheet, and other similar safety documents from Akzo Nobel, support establish that fetal harm is brought about by maternal exposure to the organic solvents involved. The evidence is overwhelming.

**3. The applicable methodology for assessing the exposure levels to expecting mothers with children that were harmed by organic solvent exposure is well-established and was applied by the experts in this case:**

As noted in *Berry*, the proper methodology for retrospectively assessing workplace exposure levels to organic solvents is well established by the medical literature and is routinely applied by the experts in the field. In that regard, evaluating exposure related symptomology is one

important factor, as are several other criteria including the duration of exposure to account for the cumulative effects, and the methods of exposure, *e.g.* skin absorption and safety equipment breakdown, in order to provide a completed assessment in any particular given situation. A comprehensive elaboration of the methodology which was applied is delineated herein:

**a. Ms. Anderson suffered from symptomology indicative of harmful exposure:**

The proper methodology for conducting an exposure assessment is delineated in the assorted articles which were coauthored by Dr. Khattak and Dr. Koren.[71] Specifically, the 1999 JAMA article concluded that "*symptomatic exposure appears to confer an unacceptable level of fetal exposure and should be avoided by appropriate protective gear.*"[72] As applied to Ms. Anderson, Dr. Khattak noted specific symptoms which were experienced during the timeframe that she was pregnant with Dalton which were indicative of harmful levels of exposure at Akzo Nobel: "*She mentioned about* ***headaches****. She talked about frequent* ***bronchitis*** *episodes where she needed some puffers. That was in general her description of the symptoms, and also some* ***irritation to the hands****.*"[73] Dr.

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[70] CP 455-91

[71] CP 209-50

[72] CP 229-32

[73] CP 577-82 (Exhibit 22 to Declaration of Beauregard (Khattak Deposition Page 229 to 230))

Koren, the defense expert, agreed that symptomatic pronunciation is indicative of harmful exposure levels to expecting mothers:

> Q. Sure. How about this, would you agree with this statement:
>
> "Symptomatic exposure appears to confer an unacceptable level of fetal exposure and should be avoided by appropriate protection and ventilation."
>
> A. I agree.[74]

In other words, according to Dr. Koren and Dr. Khattak agree the symptomatic exposure to organic solvents is consistent with an exposure levels sufficient to cause fetal malformations. Moreover, this is the same exposure methodology embraced and applied in *Berry*. When pregnant with Dalton, Ms. Anderson suffered from these symptoms.[75]

**b. Other criterion to be considered according to the applicable methodology:**

With respect to methodology, the 1999 JAMA article which was coauthored by Dr. Koren and Dr. Khattak explained as follows:

> ...we collected all available data on exposure during pregnancy to medicinal and recreational drugs, smoking, alcohol, life style, medical nutritional status, and sexually transmitted diseases. Other reproductive hazards were elucidated by taking a detailed medical history...Details concerning the time of exposure to organic solvents were recorded for determination of temporal relationship between exposure and conception. The details on chemical exposure were recorded, including occupation, chemicals involved, duration of exposure, type of protective equipment, and other safety measures, including ventilation fans. Adverse effects were defined as those known to be

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[74] CP 577-82 (Exhibit 21 to Declaration of Beauregard (Koren Deposition Page 10 lines 8 to 14))

[75] CP 455-60.

> caused by organic solvents (**e.g. irritation of the eyes or respiratory system, breathing difficulty, headache**). Temporal relationship to the exposure was investigated to separate these symptoms from those associated with pregnancy.[76]

In other words, the accepted methodology for determining whether or not an expecting mother has been exposed to a harmful level of organic solvents is to identify the temporally corresponding symptoms as compared (by weighted value) to the duration of exposures and the effectiveness of the safety measures.[77]

An article which was authored by Dr. Koren in 2004, *Child Neurodevelopmental Outcome and Maternal Exposure to Solvents*, described and followed the same exposure assessment methodology as was applied in the 1999 JAMA article:

**EXPOSURE ASSESEMENT**

> Details about the organic solvent exposure were recorded one prenatally and twice postnattaly...the recorded information included specific type of organic solvents involved in the exposure, type of occupational setting, duration of exposure in pregnancy, **any adverse symptoms**, type of protective gear used, and other safety features, including ventilation fans in the working environment.[78]

The study describes a formulaic method for collecting data and assessing the existence of harmful organic solvent exposure levels.[79] Other studies

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[76] CP 229-32

[77] CP 229-32

[78] CP 439-52 (Exhibits 17 to the Declaration of Beauregard)

[79] CP 439-52 (Exhibits 17 to the Declaration of Beauregard)

which were authored by Dr. Koren also apply the same methodology.[80] For example, in 2001, Dr. Koren authored an article related to organic solvent exposure, *Prenatal Exposure to Organic Solvents and Child Neurobehavioral Performance*, which explained and applied the same exposure assessment methodology:

> **2.4 Measurement of exposure**
>
> * * *
>
> Information was also obtained about type of chemical exposure, presence of ventilation devices, use of protected barriers, proximity to exposure, duration of exposure per day and per week, and whether woman experienced adverse effects (***i.e.* headache, nausea, skin irritations, etc.**) upon exposure...[81]

And then again, in 2001, in an article linking adverse visual effects and organic solvents, *Effects of Maternal Occupational Exposure to Organic Solvents on Offspring Visual Functioning: A Prospective Controlled Study*, Dr. Koren embraced and applied the same exposure assessment methodology:

> **Exposure assessment**
>
> * * *
>
> Information was obtained about type of chemical exposure, presence of ventilation devices, uses of protected barriers, proximity to exposure, duration of exposure per day and per week, and whether the woman experienced adverse effects (***e.g.*, headache, nausea, skin irritations**) upon exposure. To ensure that nausea or other adverse effects were not confounded by the pregnancy, women were asked

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[80] CP 209-14 (Exhibit 3 to Declaration of Beauregard)

[81] CP 439-52 (Exhibit 3 to Declaration of Beauregard)

whether symptoms were experienced before the pregnancy.[82]

As Dr. Khattak and Dr. Koren agreed by way of testimony and/or scientifically published validation, the proper method for assessing whether or not a mother was exposed to harmful levels of organic solvents is by identifying the correlating symptoms as compared (by weighted value) to the duration, temporality, and effectiveness of the safety measures including respirators, ventilation, and glove usage.[83]

Furthermore, according to the articles which were authored by Dr. Koren, an exposure assessment can be broken down into a numerical quantification representative of the corresponding weighted values which can then be objectively compared to other exposures.[84] By relative weight value, the quantifications are as follows: (1) the length of exposure is assessed a numerical quantification between 1 and 5 based upon weeks of exposure, (2) the duration of exposure is assessed a numerical quantification between 1 and 5 based upon hours worked, (3) symptomology is given the most weight and assessed a numerical quantification between 0 and 8 based upon number of symptoms, (4) ventilation is assessed a numerical quantification between 1 and 5 based upon effectiveness, protective barriers such as gloves and respirators are assessed a numerical quantification between 1 and 5 based upon

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[82] CP 439-52 (Exhibits 17 to the Declaration of Beauregard)

[83] CP 439-52 (Exhibits 17 to the Declaration of Beauregard)

[84] CP 209-15 (Exhibit 3 to Declaration of Beauregard)

presence/effectiveness, (5) odor detection is assessed a numerical quantification between 0 and 1, and (6) the method of contact (direct versus indirect) is assessed a numerical quantification between 1 and 3.[85] The total numerical quantification is indicative of the "*weighted value...based upon our existing knowledge of how exposure variables relate to toxicity.*"[86] Moreover, according to Dr. Koren's studies "*symtomatology was given a higher weight based upon evidence by Khattak et al. that there is an increased risk of major birth defects among women who reported health symptoms related to solvent exposure.*" Each of the studies conducted indicates a harm corollary with the degree and amount of organic solvent exposure during pregnancy.

**c. Ms. Anderson's assorted mechanisms of exposure:**

The underlying evidence which was considered by Dr. Khattak was extensive.[87] In accordance with ER 703, Dr. Khattak reviewed and relied upon extensive medical histories/records which were provided in hard copy beyond that which is typically done by Dr. Koren at the Motherisk Clinic.[88] Dr. Khattak also reviewed extensive documentation related to the tempo, frequency, and duration of exposures as are also reflected the opinion of an industrial hygienist, Richard Gleason,

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[85] CP 209-15 (Exhibit 3 to Declaration of Beauregard)

[86] CP 209-15 (Exhibit 3 to Declaration of Beauregard)

[87] CP 455-60 (Declaration of Julie Anderson dated July 29, 2008)

[88] CP 455-60

indicating a complete breakdown of the respiratory protection and the inadequacy of the ventilation system.[89] Dr. Khattak personally evaluated the consistent exposure pattern and duration:

> *Just from the days of my understanding of her exposure that occurred in the paint mixing room, mixing paints and cleaning afterwards with toluene, the paint facility, the mixing facility, as well as when she was in her office running and looking through orders, or picking up paints she continuously could not only smell fumes she said that it made her sick and there were other people who reported symptoms as well...When she was maybe mixing, most of the day she said that if she was responsible for mixing paint she would go and clean...Every day that she was mixing paints, the day she was responsible for being in that mixing room which my understanding was daily so I would say daily.*[90]

Moreover, according to the industrial hygienist, Richard Gleason, who was retained by the Anderson family, and relied upon by Dr. Khattak, the mechanism of exposure *was not* only by inhalation, but it *was* also dermal, directly through the skin (which is immeasurable by concentration level as noted in *Berry*), as a consequence of bad gloves:

> *... I asked Ms. Anderson what kind of gloves she had been provided. She said latex gloves, those are the surgical gloves that you see, and I asked her did those work. She said they would balloon up and get really thin and then deteriorate. So that kind of worried me as an industrial hygienist because that means you have an exposure not just in the air, but once have an exposure to the skin if you're cleaning up with a solvent or you're mixing paint that spills on your hands.*[91]

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[89] CP 356-76

[90] CP 209-15 (Exhibit 22 to Declaration of Beauregard (Khattak Deposition Page 102-3))

[91] CP 209-15 (Exhibit 25 to Declaration of Beauregard (Gleason Deposition Page 67 to 68))

As for inhalation, Mr. Gleason opined that as a consequence of Akzo Nobel's improper training as to storage techniques (unlocked Ziploc bag in the poorly ventilated paint mixing room for 10 months) Ms. Anderson's respirator hit the failure point long before she became pregnant with Dalton:

> *Yes. That it's very likely over a ten and a half month period that it would be easy to get enough exposure to saturate the cartridges over that period of time such that it would already have been used up by the time she started using it continually in June of '99, yes.*[92]
>
> * * *
>
> *Here's why: If that respirator isn't stored in a clean, dry, sanitary location, and it's open to the organic vapors in the room, and the cartridges become saturated, now every time you put it on you're getting the residual organic vapors into your breathing zone.*[93]

In other words, as a result of a lack of training and consequent poor respirator storage, Ms. Anderson was inhaling a chamber filled with immeasurable concentrations of organic solvents every time that she wore the respirator.[94] The corresponding exposure was tremendous.[95]

**e. The Methodology as applied by Dr. Khattak and Dr. Koren:**

Consistent with the methodology described in the medical literature which was authored by Dr. Koren in 1999, twice in 2001, and

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[92] CP 209-15 (Exhibit 25 to Declaration of Beauregard (Gleason Deposition Page 49 and 57))

[93] CP 209-15 (Exhibit 25 to Declaration of Beauregard (Gleason Deposition Page 40))

[94] CP 209-15 (Exhibit 25 to Declaration of Beauregard (Gleason Deposition Page 40))

[95] CP 209-15 (Exhibit 25 to Declaration of Beauregard (Gleason Deposition Page 40))

again in 2004, in addition to duration and timing of the exposures, Dr. Khattak assessed the fact that the safety gear (respirators, ventilation, and gloves) were all inadequate as opined by Mr. Gleason and contributive towards Ms. Anderson's exposure.[96] Dr. Khattak applied this same methodology, which can be repeated and applied by other experts in the field, and properly concluded that Dalton's condition is a consequence of *in utero* exposure to organic solvents at Akzo Nobel. Despite this wealth of medical evidence, based upon a misapplication of *Frye*, the trial court excluded the Anderson family's expert testimony on these issues.

**4. The trial court erred in failing to recognize this Court's instructions in *Gregory* concerning methodologies.**

In conflict with this Court's holding in *Gregory* and case law consistent with this Court's interpretation of the *Frye* test, the trial court relied upon the Division III application of the *Frye* test in *Grant*, and held that Dr. Khattak's specific causation opinion was not adequate for jury consideration. In so doing, the trial court discounted the methodology aspect of the *Frye* test. As a consequence, the Anderson family's experts' testimony on medical causation was wrongfully excluded, and, thereafter, the case was erroneously dismissed.

**5. All of the experts are in agreement that *in utero* exposure to organic solvents causes brain damage, a.k.a encephalopathy.**

Under any version of the *Frye* standard, a scientific theory is deemed generally accepted unless there is "significant" dispute in that

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[96] CP 356-76

regard. *State v. Gregory*, 158 Wn.2d 759, 834 (2006). The law does not require linking a specific medical diagnosis to the specific chemical cause. *Id.*; *Intalco v. Department of Labor & Industries*, 66 Wn.App. 644, 833 P.2d 390 (1992). In this instance, the focal issue is not whether there is medical literature proving that a particular type of malformation (e.g. neuronal migration/neural tube) has been proven to be casually connected but, instead, whether or not the general theory, major malformations of the brain induced by organic solvent exposure, is generally accepted. *Id.*

Dr. Koren agrees that *in utero* exposure to organic solvents is known to cause major malformations of the brain. When deposed, with respect to brain development and organic solvents, Dr. Koren explained:

> **Q. So you've written articles supporting the premise that organic solvent exposure to pregnant women causes -- affects brain development in fetuses; is that right?**
>
> **A. Yes.**[97]

And Dr. Koren also explained that "*In the English dictionary brain development neuronal migration – neuronal migration is one of the thousands of ways that the brain may not develop appropriately.*"[98] Another term which is synonymous and applicable here for the types of brain injuries (neuronal migration defect/PMG/heteropia) at issue is "encephalopathy", which is described by the case law as follows:

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[97] CP 209-15 (Exhibit 21 to Declaration of Beauregard (Koren Deposition Page 16))

[98] CP 209-15 (Exhibit 21 to Declaration of Beauregard (Koren Deposition Page 15 lines 14 to 16))

> ...encephalopathy occurs when there has been an alteration to the brain and central nervous system function due to exposure to various toxins. *See generally* Neil L. Rosenberg, M.D., *Occupational and Environmental Neurology,* 116-17 (1995) (herein *Occupational and Environmental Neurology*). As explained in William N. Rom, M.D. (ed.) *Environmental and Occupational Medicine* at 849 (1992): The nonspecific effects of long-term exposure to solvents range from a general negative affective state to a subtle reduction in functional reserve capacity to perform well when fatigued or in a distracting environment, to mild slowing of psycho-motor performance, to memory disturbance, and finally to severe intellectual deficits. The most severe condition, which has been called psycho-organic syndrome, presenile dementia, and severe chronic toxic encephalopathy, is also the most controversial. Although the existence of chronic solvent encephalopathy has been questioned, experts now generally agree that it occurs but not on its prevalence.[99]

Here, not even Dr. Koren disputes that *in utero* organic solvent exposure causes brain damage, *i.e.* encephalopathy, and even he has

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[99] *Berry* , 709 So. 2d at fn 2 (1998). Courts all across the country recognize that the proper issue in this context is as to the cause of "encephalopathy" and not some ultra specific diagnosis: *see e.g. Berry v. CSX Transportation,* 709 So. 2d 552 (1998); *Hose v. Chicago Northwestern Transportation Company,* 70 F.3d 968, 974 (1996) (applying *Daubert,* court permitted experts to testify that manganese "encephalopathy" resulted from the Plaintiff's inhalation of manganese fumes); *Roberti v. Andy's Termite & Pest Control, Inc.,* 113 Cal.App.4th 893, 901, 6 Cal.Rptr.3d 827, 832 (2004) (expert could testify about the Plaintiff's chronic static "encephalopathy", as the condition is generally accepted within the relevant scientific community and the only debate was whether the Defendant caused the Plaintiff's chronic static encephalopathy); *Minner v. American Mortgage & Guaranty Company,* 791 A.2d 826, 851 (2000) (court permitted expert to testify that the Plaintiff's encephalopathy could be caused by the Plaintiff's exposure to chemical toxins); *Belser v. Emergency Medical Associates of Illinois,* 213 Ill.2d 554, 821 N.E.2d 325 (2005) (court remanded case to determine whether evidence regarding "encephalopathy" would be excluded); *Sheridan v. Catering Management, Inc.,* 5 Neb. App. 305, 317, 558 N.W.2d 319, 328 (1997) (expert was permitted to testify that the Plaintiff's exposure to toxic chemicals caused her organic brain injury); *Tavares v. St. Luke's-Roosevelt Hospital,* 6 Misc.3d 1016(A), 800 N.W.S.2d 357 (2005) (Plaintiff's experts were permitted to testify that the Plaintiff suffered from hypoxic ischemic "encephalopathy" which caused cognitive deficits); *Wicker v. Consolidated Rail Corporation,* 371 F.Supp.2d 702, 732 (2005) (expert could testify about solvent "encephalopathy", even though Plaintiff and Defendant disagreed on whether the Plaintiff in fact suffered from solvent encephalopathy); *McDaniel v. CSX Transportation Inc.,* 955 S.W.2d 257, 266 (1997) (applying *Daubert,* court permitted testimony on "encephalopathy", recognizing that it has been frequently tested for the past 25 years, there were numerous studies concerning the subject, and that it is a recognized diagnosis in medical textbooks, journals, and several national and world health organizations); *Alder v. Bayer Corporation, AGFA Division,* 61 P.3d 1068, 1083-84 (2002) (court held

authored medical literature in that regard.[100] And here, the 1999 JAMA study proved that *in utero* organic solvent exposure causes major malformations by a ratio of 13 to 1.[101] Any dispute as between the differing types/shapes of malformations is certainly not "significant" in this context, particularly when the diagnosis is by way of subjective description of images on a MRI. Therefore, based upon the 1999 JAMA study, the scientific principles underlying this case, regarding organic solvent exposure and malformations of the brain, is generally accepted within the scientific community.[102]

**6. Even if the specific scientific conclusion must be generally accepted (in addition to the methodology), the trial court wrongfully rejected medical literature supportive of Dr. Khattak's conclusions.**

The methodology underpinning Dr. Khattak's conclusions is well established and, according to *Gregory*, the *Frye* analysis should stop right there. Even assuming, without agreeing, that Dr. Kahttak's specific medical conclusions must be generally accepted, beyond the premise that organic solvents cause brain damage (encephalopathy), the trial court still erred. In that regard, inconsistent with the purpose of *Frye*, the trial court effectively invoked its own conclusions about the statistical strength and

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that expert's testimony based on the theory that cognitive deficits can result from exposure to toxic chemicals was inherently reliable).

[100] CP 209-15 (Exhibit 21 to Declaration of Beauregard (Koren Deposition Page 16))

[101] CP 229-32

[102] CP 209-15 (Exhibit 25 to Declaration of Beauregard (Deposition of Glass Page 9 to 10))

significance of the JAMA study and effectively usurped the Anderson family's right to trial by jury:

> *Because the study stated that 13 of the children born to mothers who had been exposed to organic solvents had "major malformations" and listed 13 different "major malformations", the implication is that only one of the children born to the mothers in the exposed group showed a neuronal migration defect...In any event, while the 1999 JAMA study certainly suggests that exposure to organic solvents is associated with increased risk of major malformations, it alone does not demonstrate a general consensus in the scientific community that prenatal exposure to organic solvents specifically causes...neuronal migration defect.*[103]

In *Berry*, the Florida Supreme Court reversed and remanded an almost identical ruling of the trial court in that instance, explaining:

> CSX asserts that, in deciding the question of admissibility here, as part of our de novo review we must engage in a highly detailed level of critical analysis of each epidemiological study. While an analysis of each study for relative risk, confidence interval, biases, confounders, criteria of casualty and other numerous factors may be appropriate in considering sufficiency of the evidence, that is not appropriate or necessary under the circumstances here at this stage of the litigation. Further, such detailed analysis would require this court not only to have an appreciate for the methodological errors and inadequacies in the studies, an ability to asses the validity of a reanalysis of those studies, and an understanding of the biological underpinnings associated with the disease in question, but also to posses a firm grounding in the concepts of relative risk, statistical significance and confidence intervals, and their relationships to the preponderance of the evidence standard. Green, 86 N.W. U.L. Rev. at 681. While certainly courts must become educated on these subjects when necessary to adjudicate issues regarding the sufficiency of evidence in the toxic tort arena, the record in these cases is lacking in the necessary evidence upon which to make these judgment at this stage of the proceeding...

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[103] CP 779-791

709 So. 2d at 568-69. On the issue of courts challenging the strength of medical studies, consistent with the premise that jury (and not courts) should weigh the evidence, another court explained:

> For the district court to seize on the putative flaws of studies favorable to plaintiff, and then to privilege certain studies favorable to the defendant, was impermissibly to place a thumb on defendant's side of the scale and to encroach on the jury's prerogative to weigh the relative merits and credibilities of competing studies ... Thus, to the extent that none of the studies is flawless or dispositive, their relative merits seems to us to be a classic question for the jury. Trial courts should not arrogate the jury's role in "evaluating the evidence and the credibility of expert witnesses" by "simply cho[o]s[ing] sides in [the] battle of the experts."

*Christophersen v. Allied-Signal Corp.*, 902 F.2d 362, 366 (5th Cir. 1990). By drawing erroneous assumptions and conclusion about the strength of the supporting epidemiological studies, the trial court misapplied the *Frye* test and erroneously excluded the Anderson family's expert witnesses. The trial court must be reversed on these issues.

**7. The Washington Courts should follow other jurisdictions which have abandoned *Frye* altogether in lieu of more workable and reasonable evidentiary rules.**

In the alternative, the Anderson family submits that the Washington Courts should abandon the *Frye* standard all together and instead rationally apply Evidence Rule 702 as in many other jurisdictions. *See e.g. State v. Brown*, 297 Or. 404, 687 P.2d 751 (Oregon 1984) (opting for ER 702 instead of *Frye*); *Van Wyk v. Norden Laboratories, Inc.*, 345 N.W. 2d 81 (Iowa 1984); *Barmeyer v. Montana Power Co.*, 202 Mont. 185, 657 P.2d 594 (Montana 1983). As is illustrated in this litigation, the

*Frye* test is antiquated and virtually impossible to apply with any degree to reasonableness or predictability. In abandoning *Frye*, this Court should reverse and remand this strong claim for further proceedings on the merits.

**3. This Court has to make a choice.**

In sum, on the issue of *Frye*, this Court has to choose and enunciate the proper manner in which to evaluate the admissibility of complex scientific evidence. The options are threefold: (1) abandon *Frye* altogether and rely upon the conventional rules of evidence, (2) follow the trend in the case law focusing primarily and/or exclusively upon the methodology aspect of the scientific opinions, or (3) regress and adhere to a rigorous and unworkable standard which scrutinizes even the conclusions of every expert that testifies within the courts of Washington. Under any version of *Frye*, this matter should be reversed, reinstated, and remanded for further proceedings on the merits. Dalton Anderson suffers from severe brain damage as a result of Akzo Nobel's negligence, and he deserves his day in Court.

## C. The trial court erred in dismissing Ms. Anderson's retaliatory discharge claim.

The trial court erroneously dismissed Ms. Anderson's retaliatory discharge claim because she did not file a claim with the WISHA inspectors in relation to RCW 49.17.060(2). Despite the clear mandate of *Wilson v. The City of Monroe,* 88 Wn. App. 113, 126, 943 P.2d 1137, review denied, 134 Wn.2d 1028, 958 P.2d 318 (1997), that RCW

49.17.060(2)[104] is not the exclusive remedy for a person wrongfully discharged for reporting a violation to WISHA, the trial court dismissed Julie Anderson's wrongful discharge claim. The trial court refused to allow Julie Anderson to proceed against the Defendants "because Anderson chose to ignore this statutory remedy."

The *Wilson* opinion is binding precedent from Division I. The *Wilson* court held that RCW 49.17.060(2) did not intend to provide the exclusive remedy to a person who has been wrongfully discharged. 88 Wn. App. at 125. The court made this determination based on the language contained in the statute. *Id.* The statute uses the word "may" "in reference to the employee's initiation of the process of obtaining relief" and uses the word "shall" "regarding what must be done in response to the employee's complaint." *Id.* The reading of this statute, combined with the vital state interest that employees be given a right to sue for discharges in violation of public policy, resulted in the court permitting the plaintiff's case to move forward. *Id.* at 120, 125.

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[104] RCW 49.17.160(2): Any employee who believes that he has been discharged or otherwise discriminated against by any person in violation of this section may, within thirty days after such violation occurs, file a complaint with the director alleging such discrimination. Upon receipt of such complaint, the director shall cause such investigation to be made as he deems appropriate. If upon such investigation, the director determines that the provisions of this section have been violated, he shall bring an action in the superior court of the county wherein the violation is alleged to have occurred against the person or persons who is alleged to have violated the provisions of this section. If the director determines that the provisions of this section have not been violated, the employee may institute the action on his own behalf within thirty days of such determination. In any such action the superior court shall have jurisdiction, for cause shown, to restrain violations of subsection (1) of this section and order all appropriate relief including rehiring or reinstatement of the employee to his former position with back pay.

In the summary judgment order dated July 17, 2007, the trial court dismissed Ms. Anderson's retaliatory discharge claim noting that "*because Anderson chose to ignore this statutory remedy, she cannot now argue that public policy against wrongful discharge is threatened if her common law tort claim is not recognized.*" The trial court's order does not cite or mention controlling precedent such as *Wilson.* The Anderson family believes that *Wilson* is controlling authority, runs directly contrary to Akzo Nobel arguments, and was not cited and/or properly considered by the trial court.

This court has an opportunity to resolve this conflict and clarify this area of the law. Washington has a strong interest to protect employees who are subjected to hazardous work conditions. Washington employees who are suffering in these hazardous work environments and who report WISHA violations should not be further punished by their employer. Employees need to feel free to report these violations and feel secure in their employment. If terminated, these employees need to know what methods of recourse are available to them.

## V. CONCLUSION

As a matter of legal causation, the trial court erred in ruling that Ms. Anderson could be held comparatively at fault for Dalton's injuries premised upon her decision to work and perform the essential functions of her job while pregnant. In relation to *Frye*, the trial court erred in ruling that the Anderson family's causation premise is not generally accepted within the medical community. Additionally, this Court has an opportunity to make a choice as to the proper manner of applying *Frye* in cases of this nature moving forward. And finally, the trial court erred in dismissing Ms. Anderson's retaliatory discharge claim. As to all of these issues, the trial court should be reversed, and this matter should be remanded for a trial on the merits.

RESPECTFULLY SUBMITTED this 14 day of January, 2009.

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