

RICHARD THOMAS WALSH,
EXECUTOR OF THE ESTATE OF
THOMAS J. WALSH, DECEASED

Appellant

v.

IN THE SUPERIOR COURT OF
PENNSYLVANIA

No. 1661 WDA 2016

BASF CORPORATION; BAYER
CORPORATION D/B/A BAYER
CROPSCIENCE, L.P., AND BAYER
CROPSCIENCE HOLDING, INC.,
AND/OR BAYER CROPSCIENCE, L.P.
AND BAYER CROPSCIENCE
HOLDING, INC., IN THEIR OWN
RIGHT; BIOSAFE SYSTEMS, L.L.C.;
CHEMTURA CORPORATION; CLEARY
CHEMICAL CORP.; DOW
AGROSCIENCES, L.L.C.; E.H.
GRIFFITH, INC.; E.I. DU PONT DE
NEMOURS AND CO., INC.; G.B.
BIOSCIENCES CORPORATION;
JOHN DEERE LANDSCAPING, INC.,
SUCCESSOR TO LESCO, INC.;
MONSANTO COMPANY; NUFARM
AMERICAS, INC.; REGAL CHEMICAL
CO.; SCOTTS-SIERRA CROP
PROTECTION CO.; AND SYNGENTA
CROP PROTECTION, INC.

Appeal from the Order Entered October 14, 2016
In the Court of Common Pleas of Allegheny County Civil Division at
No(s): G.D. No. 10-018588

BEFORE: BENDER, P.J.E., BOWES, J., and STRASSBURGER*, J.

OPINION BY BOWES, J.:

FILED JUNE 20, 2018

Richard Thomas Walsh, Executor of the Estate of Thomas J. Walsh,
Deceased, appeals from the October 14, 2016 order granting summary

* Retired Senior Judge assigned to the Superior Court.

judgment in favor of Appellees, and challenges the propriety of the trial court's order barring his experts from testifying pursuant to the standard enunciated in ***Frye v. United States***, 293 F. 1013 (D.C. Cir. 1923). Since we conclude that the learned trial court erred in the manner in which it conducted the ***Frye*** inquiry herein, we reverse the grant of summary judgment, vacate the order precluding Mr. Walsh's experts from testifying, and remand for further proceedings.¹

The record reveals the following. The Decedent, Thomas J. Walsh, was employed for almost forty years as a groundskeeper and golf course superintendent at several golf courses in the Pittsburgh area. During his employment, he frequently and regularly applied insecticides and fungicides (collectively "pesticides") on the golf courses. He kept a diary of the chemicals used on the courses and the dates of their applications. His friend and co-worker, Blaise Santoriello, offered specific details about how the two men applied the pesticides, what pesticides were used, in what concentrations, and the protective gear worn. Most of the applications occurred from May through September.

Early on, according to Mr. Santoriello, Mr. Walsh came into physical contact with pesticides while holding the hose spraying pesticides. Gloves were the only protective gear used. Later, the men wore masks and rubber boots and overalls that they would re-wear without laundering. He recounted

¹ We grant Monsanto Company's motion to withdraw the appearance of Daniel R. Blakey, Esquire, filed on June 15, 2017.

an instance in the mid-1980s when Mr. Walsh experienced an adverse reaction to a product. That prompted a change to disposable protective gear. Yet, Mr. Santoriello explained that, even then, they would be exposed to the dust from the products while opening the bags, mixing the chemicals, and holding the hoses.

On October 5, 2008, Mr. Walsh presented to the emergency room complaining of fever, chills, and a cough. Three days later, after a bone marrow biopsy, he was diagnosed with Acute Myelogenous Leukemia ("AML"). Subsequent cytogenetic testing at West Penn Hospital showed chromosomal aberrations consistent with secondary leukemias, which are linked to radiation, chemotherapy, or chemical exposure.

Mr. Walsh died on February 2, 2009. His treating oncologist, James Rossetti, D.O., later opined that Mr. Walsh's extensive chemical exposure, together with "the high-risk karyotype and dyspoietic features associated with [AML] raise a high degree of suspicion that such [occupational pesticide] exposure played a significant role in the development of his disease." Letter Report of James M. Rossetti, D.O., 7/19/12, at 4.

Executor commenced this wrongful death and survival action against the manufacturers of various pesticides that Decedent applied over the forty-year period, asserting claims in strict products liability, negligence, and breach of warranty. Summary judgment was granted in favor of the manufacturers and sellers of more than twenty-five of the allegedly defective pesticides on December 11, 2012, based on a lack of expert testimony identifying these

pesticides as substantial contributing factors in Mr. Walsh's death. Fifteen products remained in the lawsuit when the rulings that are the subject of this appeal were made.²

On August 5, 2013, the Bayer Defendants filed a motion to exclude Executor's experts, epidemiologist April Zambelli-Weiner, Ph.D., and physician Nachman Brautbar, M.D., pursuant to ***Frye v. United States***, 293 F. 1013 (D.C. Cir. 1923). The other remaining defendants either joined Bayer's ***Frye*** motion or filed their own. The substance of the ***Frye*** motions was that this case involved novel science, and the methodologies used by these experts were not generally accepted or conventionally applied in the relevant scientific communities.

The trial court ordered the parties to conduct depositions on the ***Frye*** issue. Thereafter, the parties briefed and argued the issues. On October 5, 2016, the trial court granted the Defendants' ***Frye*** motions and precluded the testimony of Executor's experts. Since Executor could not prove the requisite causation without the expert testimony, the parties stipulated to the entry of the October 14, 2016 order granting summary judgment, preserving all rights to appeal the ***Frye*** determination.

² The remaining Defendants are BASF Corp.; Dow Agrosiences, LLC; John Deere Landscaping, Inc. (successor to Lesco, Inc.); Monsanto Company; Syngenta Crop Protection, Inc.; and the Bayer Defendants (Bayer Corp. d/b/a Bayer Cropscience, L.P., Bayer Cropscience Holding, Inc., Bayer Cropscience, L.P., Bayer Cropscience Holding, Inc., in their own right.

Executor filed the within appeal on November 3, 2016, and timely complied with the court's order to file a Pa.R.A.P. 1925(b) concise statement of errors complained of on appeal. The trial court issued a supplemental memorandum. Executor presents one issue for our review: "Did the Plaintiff's experts employ generally accepted scientific methodology in arriving at their opinions concerning medical causation in this toxic tort claim?" Appellant's brief at 4.

Although the appeal herein lies from the entry of summary judgment, the appropriate appellate standard of review is the one pertaining to the underlying ruling that Appellant is challenging. *See K.H. v. J.R.*, 826 A.2d 863, 870-71 (Pa. 2003). Since the correctness of the *Frye* evidentiary ruling is at issue herein, the abuse of discretion standard applies. *Betz v. Pneumo Abex LLC*, 44 A.3d 27, 54 (Pa. 2012). "[A]n abuse of discretion may not be found merely because an appellate court might have reached a different conclusion, but requires a result of manifest unreasonableness, or partiality, prejudice, bias, or ill-will, or such lack of support so as to be clearly erroneous." *Id.* at 45.

At issue in the underlying litigation is whether Decedent's forty-year occupational exposure to Defendants' insecticides and fungicides, collectively pesticides, some of which contain known carcinogens and teratogens, was a substantial contributing factor in his death due to AML. The precise issue before us involves the propriety of the trial court's ruling that *Frye* barred Executor's experts from testifying as to causation.

The **Frye** standard originally was intended to prevent the situation in which a party would seek to introduce scientific evidence that was so new that it would be impossible to “produce rebuttal experts, equally conversant with the mechanics and methods of a particular technique.” **United States v. Addison**, 498 F.2d 741, 744 (D.C. App. 1974). **Frye** contemplated a judicial inquiry, informed by experts, into the general acceptance of the scientific methods used. The standard required that “the thing from which the [expert’s] deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs.” **Frye, supra** at 1014. At issue in **Frye** was admissibility of the systolic blood pressure deception test, commonly known as the lie detector test. The trial court excluded the evidence, and the court affirmed that ruling on appeal, explaining:

Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognized, and while courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs.

Frye, supra at 1014. Pennsylvania adopted the **Frye** standard in **Commonwealth v. Topa**, 369 A.2d 1277 (Pa. 1977), a case involving the propriety of the trial court’s admission of voice print identification evidence through an expert, Lieutenant Nash, of the Michigan State Police. Our High Court, applying **Frye**, reasoned that

[t]he requirement of general acceptance in the scientific community assures that those most qualified to assess the general validity of a scientific method will have the determinative voice. Additionally, the **Frye** test protects prosecution and defense alike by assuring that a minimal reserve of experts exists who can critically examine the validity of a scientific determination in a particular case. Since scientific proof may in some instances assume a posture of mystic infallibility in the eyes of a jury of laymen, the ability to produce rebuttal experts, equally conversant with the mechanics and methods of a particular technique, may prove to be essential.

Topa, supra at 1282 (quoting **Addison, supra** at 744). The **Topa** Court went on to conclude that the testimony of one expert could not satisfy this standard, citing commentaries questioning the reliability of sound spectrographs and voiceprints and demonstrating that it was not generally accepted within the field of acoustical science.

Thus, the **Frye** standard originally was intended to prevent a party from introducing scientific evidence that was so new that it would be impossible to “produce rebuttal experts, equally conversant with the mechanics and methods of a particular technique.” **Addison, supra** at 744. 498 F.2d 741, 744 (D.C. App. 1974). **Frye** contemplated a judicial inquiry, informed by experts, into the general acceptance of the scientific methods used.

In the years since the adoption of the **Frye** standard, this Court has clarified that “**Frye** only applies to determine if the relevant scientific community has generally accepted the principles and methodology the scientist employs, not the conclusions the scientist reaches.” **Trach v. Fellin,**

817 A.2d 1102, 1112 (Pa.Super. 2003) (*en banc*). The **Frye** test has been incorporated into Pennsylvania Rule of Evidence 702, which 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 is beyond that possessed by the average layperson;
- (b) 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;
- (c) **The expert's methodology is generally accepted in the relevant field.**

Pa.R.E. 702 (emphasis added).

Executor contends first that a **Frye** inquiry was not indicated on two grounds: 1) the causal link between pesticides and leukemia is not novel science; and 2) it is inapplicable where a medical expert reviews medical records and arrives at conclusions regarding the source of injuries. **See Cummins v. Rosa**, 846 A.2d 148 (Pa. 2004), **Trach, supra**, and **Tucker v. Community Medical Center**, 833 A.2d 217, 224 (Pa.Super. 2003).

In anticipation that we might conclude otherwise, Executor argues in the alternative that his experts satisfied **Frye's** generally-accepted-methodology requirement for the admissibility of novel scientific evidence. His experts, Drs. Brautbar and Zambelli-Weiner, applied the generally accepted Bradford Hill viewpoints for establishing general causation. Dr. Brautbar also applied

differential diagnosis, a generally accepted methodology, in arriving at his specific causation opinions.

Executor alleges further that the trial court violated Pa.R.C.P. 207.1 and **Grady v. Frito Lay**, 839 A.2d 1038 (Pa. 2003), by looking at the experts' conclusions rather than the general acceptability of their methodologies within the relevant scientific communities. He maintains that the court found the experts' methodologies unreliable simply because the experts' conclusions did not match those of the study authors cited. In arriving at its conclusions, Executor contends that the trial court "delved into an area beyond the training and experience of judges and lawyers, and substituted its analysis of the scientific literature for the analysis that was conducted by [Executor's] experts." Appellant's brief at 17. In doing so, according to Executor, the court improperly focused on the conclusions reached, rather than on whether the principles and methodology were generally accepted. In addition, the court improperly demanded indisputable evidence of the link between pesticide exposure and AML.

We find considerable support for Executor's position that the link between pesticides and cancer has crossed the threshold from novel to general acceptance. The record reveals that more than 700 articles and studies have been published examining the connection. **See Betz v. Pneumo Abex LLC**, 44 A.3d 27 (Pa. 2012) (noting link between asbestos and mesothelioma not novel science as studies went back to 1935). However, the **Betz** Court recently clarified that a "reasonably broad meaning should be ascribed to the

term “novel,”” and expanded **Frye** to require a hearing when a trial judge has “articulable grounds to believe that an expert has not applied accepted scientific methodology in a conventional fashion in reaching his conclusions.” **Id.** at 545. Since the defense offered expert opinion that neither Dr. Brautbar nor Dr. Zambelli-Weiner applied the Bradford-Hill method in a generally accepted manner in reaching their conclusions, we find no abuse of discretion on the part of the trial court in conducting a **Frye** inquiry herein.

Nonetheless, we find merit in Executor’s contention that the **Frye** inquiry herein was overly expansive. The court viewed its role as that of a gatekeeper, charged with “review[ing] the studies that Dr. Brautbar relies upon to determine whether they support Dr. Brautbar’s reliance[,]” and “to make sure that the articles stood for what Dr. Brautbar said that they did.” Supplemental Memorandum, 12/27/16, at 5. That is not the proper role of the trial court in a **Frye** inquiry.

Frye requires that a proponent of novel scientific testimony demonstrate that the expert relied upon and conventionally applied a scientific method generally accepted in the relevant scientific community. Both Dr. Brautbar and Dr. Zambelli-Weiner used the Bradford Hill criteria, which the defense agreed was a generally accepted scientific methodology for determining general causation. In fact, defense expert David H. Garabrant, M.D., used the same method. **See** Expert report of David H. Garabrant, M.D., at 7 (“My opinions regarding the causal relationship between exposure to pesticides and risk of AML are based on the causal considerations laid out by

Austin Bradford Hill”). Even the trial court approved of Dr. Brautbar and Dr. Zambelli-Weiner’s use of the Bradford Hill criteria. Supplemental Opinion, 12/27/16, at 5. The method identifies nine non-exclusive criteria relevant to such a determination, one of which is the experimental data.³ Dr. Brautbar explained how he analyzed those nine factors in arriving at his general causation opinions. Although the defense experts maintained that Executor’s experts did not correctly apply the Bradford Hill criteria, they offered little or no insight as to why the approach was unconventional. They largely disagreed with the weight the experts assigned to various factors and the conclusions reached, neither of which would preclude the experts from testifying.

The trial court did not expressly find that Dr. Brautbar’s manner of applying Bradford Hill was not generally accepted. Rather, the court focused on Dr. Brautbar’s reference to studies in applying those factors, and concluded that his reliance upon particular studies was not in accordance with generally accepted scientific methodology. In arriving at that conclusion, the court scrutinized the studies cited by Dr. Brautbar, assessed their scientific relevance and validity, and then arrived at its own conclusion whether the expert’s reliance upon them was scientifically acceptable. The court’s finding that Dr. Brautbar did not follow accepted methodologies in **relying upon** certain studies in forming his opinions as to general causation added another

³ The Bradford Hill factors include the consistency, strength, specificity, and temporal relationship of the observed association; the biological plausibility of the exposure-response relationship, as well as the biological plausibility as viewed from data; coherence; experimental evidence; and analogy.

layer to the generally accepted methodology requirement. Furthermore, the trial court did not identify the methodology it was employing or reference testimony from scientists in the field. In short, the trial court baldly concluded, “Dr. Brautbar’s reliance on this literature to support his general causation theory is not in accordance with generally acceptable scientific methodology.”⁴

Trial Court Opinion, 10/5/16, at 6.

The trial court employed the same flawed approach in evaluating the sources reviewed and cited by Dr. Brautbar in support of his specific causation opinions. Notably, the defense experts did not dispute the general acceptance of Dr. Brautbar’s choice of the differential etiology methodology⁵ for determining specific causation. That method permits a medical expert to render specific causation opinions based on the scientific information available, the patient’s history, his education, training, and experience. We routinely require our experts, especially medical experts, to apply their scientific knowledge, information, and expertise to a unique set of

⁴ Dr. Brautbar also referred to the Material Safety Data Sheets (“MSDSs”), documents containing information on the potential hazards of the individual products, in arriving at his general causation opinions.

⁵ Dr. Brautbar explained that, in this case, the differential etiology method involved “ruling in all identifiable causes of (and risk factors for) acute myelogenous leukemia and then ruling out those for which there is inadequate evidence.” Dr. Brautbar Expert Report, at 61. He found Decedent’s medical history to be negative for congenital disorders, hematologic disorders, exposure to chemotherapy, radiation, or cigarette smoking, and ruled out substantial exposure to petroleum products or pesticides prior to his forty-year employment at golf courses.

circumstances. The fact that the experts arrive at different conclusions goes to the weight of the evidence, not to its admissibility.

The court looked behind Dr. Brautbar's differential diagnosis methodology and challenged his **conclusion** that chromosomal abnormalities in chromosomes 5 and 7 constituted strong evidence that Mr. Walsh's AML was caused by benzene exposure. The court noted that, while the studies upon which Dr. Brautbar relied found a higher incidence of such aberrations with chemical exposure, the aberrations were not conclusively linked to such exposure. Furthermore, the court went on to opine, again without citing any scientific support, that each of the following was scientifically unacceptable.

1. "to use a study of bovine lymphocyte cultures as a basis for concluding that exposure to Touche causes AML in humans." Trial Court Opinion, 10/5/16, at 10.
2. "to use a study of mice bone marrow as a basis for concluding that exposure to Roundup causes AML in humans." **Id.** at 11.
3. To rely upon animal studies, test-tube studies, and studies that include significant limiting language as to the applicability of their results to causation theories. **Id.** at 12.
4. To select portions of studies that favor a certain outcome while ignoring direct statements against that outcome contained within the same article." **Id.** at 12-13.
5. To rely on sources "predicting risk and establishing causation" as they "do not go hand-in-hand." **Id.** at 3.

As the foregoing conclusions illustrate, the trial court applied its own view of what studies were scientifically/medically acceptable to support the expert's opinion. In doing so, the trial court impermissibly set itself up "as a

super expert in the field of medicine.” ***Kubacki v. Metropolitan Life Ins. Co.***, 164 A.2d 48, 52 (Pa.Super. 1960). That was not its role under ***Frye***.

The purpose of a ***Frye*** hearing is to permit a trial court to hear from experts in the relevant scientific field whether an expert’s methodology is generally accepted.⁶ As our Supreme Court acknowledged in ***Grady v. Frito Lay, Inc.***, 839 A.2d 1038, 1044 (Pa. 2003), “one of the primary reasons we embraced the ***Frye*** test in ***Topa*** was its assurance that judges would be guided by scientists when assessing the reliability of a scientific method.” The Court added, that “[g]iven the ever-increasing complexity of scientific advances, this assurance is at least as compelling today as it was in 1977[.]” ***Id.*** at 1045. The ***Grady*** Court concluded that, “requiring judges to pay deference to the conclusions of those who are in the best position to evaluate the merits of scientific theory and technique when ruling on the admissibility of scientific proof, as the ***Frye*** rule requires, is the better way of insuring that only reliable expert scientific evidence is admitted at trial.” ***Id.***

Nor is an expert required to parrot the conclusions of study authors. As Justice Castille cautioned in his dissent in ***Blum v. Merrell Dow Pharms., Inc.***, 764 A.2d 1, 15 (Pa. 2000), limiting an expert to the conclusions reached

⁶ In lieu of a ***Frye*** hearing, the court ordered that depositions be taken of the experts. Thereafter, the parties briefed and argued the merits of their respective ***Frye*** positions. There is no indication that the trial court relied upon the deposition testimony in arriving at its conclusions regarding generally accepted scientific methodologies.

by a study is a narrow approach that “conclusively determines that no opinion other than the initial researcher’s may ever be heard.” He maintained that we must allow room for expert medical opinion based on generally accepted scientific principles.

In support of the trial court’s **Frye** determination, Defendant Dow Agrosiences contends that “any methodology based on ‘pesticides’ as a class, and/or ‘chromosomal aberrations’ and cancer generally, involves too great of an analytical leap to support admissible medical causation expert opinions” for the products at issue. Brief of Dow Agrosiences at 30. Dow maintains that Executor failed to submit epidemiology evidence supporting a specific link between its product, Dursban, and AML, and asserts that there are no studies demonstrating a connection.⁷ It contends that Dr. Brautbar failed to consider alternative causes of AML for purposes of differential diagnosis, such as his obesity. Thus, it contends, the trial court was correct in precluding the experts under **Frye**.

Deere & Company (“Deere”), the producer of Manicure, similarly alleges that “Dr. Brautbar relies on mechanistic laboratory testing for his opinions[,]” but failed to reference tests specific to whether Deere’s product, or what

⁷ The record contains references to a 2004 peer-reviewed article discussing adverse health effects among occupational users of Chlorpyrifos, the active ingredient in Dursban. The authors of that article link Chlorpyrifos, an organophosphate, to an increased risk of developing leukemia. Dursban also contains petroleum solvents that are alleged to contain benzene, a known carcinogen linked with AML.

dosage of its product, could cause AML. It criticizes Dr. Brautbar's methodology because he did not reference epidemiology studies involving Chlorothalonil, a chemical in Manicure, which did not reveal a statistically significant risk for leukemia. Deere alleges that the experts' failure to address such studies "shows gaps in their methodology." Deere's brief at 6. Furthermore, Deere argues that Dr. Brautbar's reliance upon animal and *in vitro* studies instead of the epidemiology studies involving humans is inappropriate. BASF Corporation makes similar arguments with relation to its product Touche' and its active ingredient, vinclozolin.

We glean the following from the record. Scientists routinely perform animal and *in vitro* studies, as is evident from the number of such studies undertaken. Dr. Brautbar did not rely solely on such studies. Dr. Brautbar also relied upon case studies involving farmers, golf course superintendents, workers, and pesticide applicators exposed to occupational pesticides. In addition, his opinions were informed by cytogenetic studies linking certain genetic deletions with exposure to chemicals, together with his own knowledge, education, and experience as a physician.

Although the epidemiological studies cited by Executor's experts did not explore whether exposure to one particular pesticide product caused AML, we reject Defendants' contention that such specific studies were required in order to survive a **Frye** scrutiny. The EPA assesses the cumulative risk of pesticides that share common mechanisms of toxicity or act the same way in the body.

Scientists have looked at multiple pesticide exposures in agricultural and manufacturing settings, which one could argue provides a more accurate picture of occupational exposure. Executor's epidemiological expert, Dr. Zambelli-Weiner, explained that most epidemiological studies examine the effects of multiple pesticide exposures because they are additive, cumulative, and synergistic. She concluded that epidemiological studies that have examined the association between pesticide exposure and leukemia risk have consistently shown a positive association, some estimates demonstrating a two-fold increase in risk. She opined, to a reasonable degree of scientific certainty, that "organophosphate pesticide formulations, individually or in combination, [are] causally related to an increased risk of leukemia in humans exposed to them." Zambelli-Weiner Report, 7/18/12, at 15. She opined further that, "[e]pidemiologic studies support at least an additive effect on risk of leukemia based on the independent effects of multiple pesticide formulations including exposure to solvents." *Id.* at 14.

Thus, the scientific literature, in the aggregate, supports a causal relationship between long-term pesticide exposure and leukemia, such as AML. That link is not a mere scientific hunch. For purposes of *Frye*, an expert need not rely on studies that mirror the exact facts under consideration. It is sufficient if the synthesis of various legitimate studies reasonably permits the conclusion reached by the expert. The absence of a treatise or study directly on point goes to the weight, not the admissibility, of expert opinion. An

expert's opinion will satisfy **Frye** when it is deduced from generally accepted scientific principles and supported by studies or literature, even where the expert could not point to one study involving parallel circumstances.

The general scientific principle underlying the opinions of Dr. Zambelli-Weiner and Dr. Brautbar is that long-term exposure to pesticides can cause or increase the risk of leukemia, and specifically AML. The literature and studies, in the aggregate, support the general acceptance of that principle. In addition, medical science in the form of cytogenetic studies linking changes in certain chromosomes with exposure to chemicals supports a causal link.⁸ Dr. Brautbar used the differential diagnosis theory, which is generally accepted in the scientific community, to arrive at his opinion that long-term pesticide exposure was the cause of Decedent's AML. **See *In re Paoli R.R. Yard PCB Litig.***, 35 F.3d 717, 756 (3d Cir. 1994) (affirming for purposes of the **Frye** prong of the **Daubert** inquiry, that differential diagnosis is widely accepted technique, subjected to peer review, used by the medical community to rule in or out alternative causes).

Defendants focus herein on the expert physician Dr. Brautbar's inability to quantify Mr. Walsh's exposure to each specific product and to opine that each of those exposure levels significantly or substantially increased the risk

⁸ Although the trial court dismissed the cytogenetic studies as they were not conclusive, we find the existence of those studies, together with the differential etiology methodology employed by Dr. Brautbar, sufficient to pass muster under **Frye**.

of AML. That is not the proper subject for a **Frye** inquiry. An expert's ability to opine with a reasonable degree of scientific or medical certainty that exposure to a particular defective product substantially caused or contributed to the injury goes to the legal sufficiency of the expert testimony, not to whether the science is generally accepted.⁹ Summary judgment, not **Frye**, is the appropriate vehicle for addressing that question.¹⁰ **See Howard v. A.W. Chesterton Co.**, 78 A.3d 605, 607-08 (Pa. 2013) (*per curiam*).

Our decision is in accord with **Trach, supra** at 1104, holding that since **Frye** is an exclusionary rule of evidence, "it must be construed narrowly so as not to impede admissibility of evidence that will aid the trier of fact in the search for truth." For these reasons, we vacate both the order excluding Executor's experts from testifying, and the subsequent order granting summary judgment in favor of Defendants based on that prior order, and remand for further proceedings consistent with this opinion.

⁹ Defendants' focus on substantial factor and the "one breath" theory to preclude Executors' expert opinions under **Frye** is misplaced. The record establishes frequent, regular, and proximate exposure to the pesticides at issue herein. Dr. Brautbar relied upon that exposure history, together with Decedent's medical history, epidemiological studies, and cytogenetic studies, in arriving at his conclusion that Decedent's forty-year exposure to Defendants' pesticides caused or contributed to his death from AML.

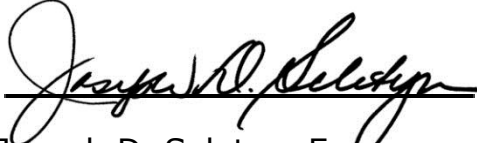
¹⁰ Prior to the **Frye** challenge, summary judgment was granted in favor of several of the original defendants due to a lack of expert testimony identifying their products as substantial contributing factors in Mr. Walsh's death. As to the Defendants remaining herein, the expert proof was sufficient to survive that scrutiny.

Orders vacated and case remanded for further proceedings. Jurisdiction relinquished.

Judge Strassburger joins the opinion.

PJE Bender files a dissenting opinion.

Judgment Entered.

A handwritten signature in black ink, appearing to read "Joseph D. Seletyn", written over a horizontal line.

Joseph D. Seletyn, Esq.
Prothonotary

Date: 6/20/2018