

# *Supreme Court of Florida*

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No. SC01-1127

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**UNITED STATES SUGAR CORPORATION,**  
Petitioner,

vs.

**G.J. HENSON,**  
Respondent.

[June 6, 2002]

LEWIS, J.

We have for review a decision of a district court of appeal on the following question, which the district court certified to be of great public importance:

IS A JUDGE OF COMPENSATION CLAIMS REQUIRED TO APPLY THE STANDARDS OF FRYE V. UNITED STATES, 293 F. 1013 (D.C. CIR. 1923), PRIOR TO ADMITTING EXPERT OPINIONS CONCERNING NOVEL SCIENTIFIC PRINCIPLES OR METHODOLOGIES IN A WORKERS' COMPENSATION PROCEEDING?

United States Sugar Corp. v. Henson, 787 So. 2d 3, 11 (Fla. 1st DCA 2001). We have jurisdiction. See art. V, § 3(b)(4), Fla. Const.

## Facts and Procedural History

Respondent G.J. Henson worked for petitioner U.S. Sugar as an agricultural mechanic for twenty-eight years, ending in 1996 when he became disabled. During his employment, the respondent spent most of his day in the field repairing broken or malfunctioning equipment. Over the course of his employment history with U.S. Sugar, Henson was regularly exposed to pesticides<sup>1</sup>--through physical presence in the fields when aerial application was occurring or had recently occurred, or by actually touching the liquid and solid forms of pesticides during his work on equipment and machinery. According to respondent, he was told that the pesticides would not harm him, and he was not given any particular training on safety precautions for handling the poisonous substances or the equipment upon which the substances came to rest. While U.S. Sugar provided Henson with leather and latex gloves, the leather gloves were unwieldy for his work and the latex gloves were quickly torn by the equipment that the petitioner was required to

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1. The district court below determined that it was established by competent, substantial evidence that Henson was exposed to the following toxic substances: 2,4-D ametryn and atrazine, parathion, mocap (ethoprop), malathion, paraquat, and azodrin. Additionally, while not expressly mentioned by the petitioner, U.S. Sugar's records indicate that dursban/chlorpyrifos, guthion, diazinon, dalapon/dowpon, MSMA (methal arsenic acid), asulox, and polado were all applied during Henson's employment with the company. See Henson, 787 So. 2d at 6.

service and maintain.

While the respondent has suffered from shortness of breath, nausea, gastritis, and muscle weakness since 1977, and from that date until 1996 he had been seen in petitioner's medical clinic regarding these conditions, in February 1996 he began seeing his own physician for weakness, dizzy spells, and shortness of breath. After being referred to a pulmonologist, Henson was diagnosed with a paralyzed phrenic nerve. This nerve condition has resulted in a partial collapse of one of the respondent's lungs, leaving him virtually confined to a wheelchair and dependant upon a ventilator.

Henson asserted before the Judge of Compensation Claims (JCC) that he is permanently and totally disabled, and that his disability was caused by pesticide exposure in the workplace. As is typical in workers' compensation cases, the respondent's causation evidence was presented to the JCC by introduction of the deposition testimony of four experts.<sup>2</sup> These physicians opined that the cumulative effect of respondent's pesticide exposure was the cause of his phrenetic nerve mononeuropathy. The nontreating experts based their opinions upon well-settled

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2. Testimony elicited during the depositions of Dennis J. Bowsher, M.D., a clinical pharmacologist and toxicologist; Neal Warshoff, M.D., a pulmonary specialist and the respondent's treating physician; Jeffrey Brown, M.D., a clinical neurologist; and Craig Lichtblau, M.D., board-certified in physical medicine and rehabilitation, was presented.

biological conclusions published in scientific literature regarding the effects of insecticides upon humans. Additionally, the treating physicians based their determinations upon both broadly accepted scientific literature and differential diagnosis--an established scientific methodology in which the expert eliminates possible causes of a medical condition to arrive at the conclusion as to the actual debilitating factor.

Despite a “section 90.702 objection”<sup>3</sup> during the expert depositions, and the petitioner’s motion in limine, filed one day before the pretrial hearing, which objected to the respondent’s expert testimony based upon a lack of general acceptance for his theory of causation under Frye v. United States, 293 F. 1013 (D.C. Cir. 1923), the JCC accepted the testimony of the respondent’s experts into evidence without conducting a separate evidentiary hearing. Following the final hearing, the JCC held that Henson is permanently and totally disabled, and that his disability was caused by pesticide exposure during his employment with U.S. Sugar.

On appeal, the First District affirmed. In its analysis, the court determined that the JCC should have applied the standard enunciated in Frye, to ascertain the

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3. Section 90.702 governs the testimony of experts. See § 90.702, Fla. Stat. (2001).

admissibility of the expert opinion testimony presented by Henson to explain the causative link between pesticide exposure and his medical condition. See Henson, 787 So. 2d at 10-12. As a result of this conclusion, the court engaged in a de novo review of the respondent's experts' opinions, as required by this Court's decision in Brim v. State, 695 So. 2d 268 (Fla. 1997), finally concluding that their deductions were based upon scientific precepts generally accepted in the scientific community. See id. at 16-21. Therefore, the court concluded that the testimony was properly admitted under Frye, and affirmed the JCC's holding, while also certifying the question related to this determination to us for consideration. This review has followed.

### Analysis

It is well-settled in Florida that in the arena of determining the admissibility of novel expert opinion testimony, it is of paramount importance that the court “not permit cases to be resolved on the basis of evidence for which a predicate of reliability has not been established. Reliability is fundamental to issues involved in the admissibility of evidence.” Hadden v. State, 690 So. 2d 573, 578 (Fla. 1997). Focusing upon the prerequisite of scientific dependability, this Court has remained committed to the use of the admissibility standard first detailed in the opinion of the District of Columbia Circuit Court of Appeals in Frye v. United States, 293 F.

1013 (D.C. Cir. 1923). See Brim v. State, 695 So. 2d 268 (Fla. 1997); Murray v. State, 692 So. 2d 157 (Fla. 1997); Stokes v. State, 548 So. 2d 188 (Fla. 1989). As stated in the D.C. Circuit’s original opinion, the Frye standard requires 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, 293 F. at 1014.

While this case may present the issue of whether the Frye standard must be satisfied in workers’ compensation proceedings to this Court for the first time, many legal questions in the workers’ compensation area which are relevant to the resolution of the instant case have already been addressed. We recognize that the present question has not received a uniform answer in all jurisdictions. First, the Florida Evidence Code applies in workers’ compensation proceedings. See Alford v. G. Pierce Woods Mem’l Hosp., 621 So. 2d 1380, 1382 (Fla. 1st DCA 1993); Martin Marietta Corp. v. Roop, 566 So. 2d 40, 42 (Fla. 1st DCA 1990); see generally Charles W. Ehrhardt, Florida Evidence §103.3 (2001 ed.). Additionally, as stated in the opinion of the court below, “Frye’s application in workers’ compensation cases has been implicitly recognized by the Florida Supreme Court.” Henson, 787 So. 2d at 11.

In Domino’s Pizza v. Gibson, 668 So. 2d 593 (Fla. 1996), we addressed

whether section 440.09(3), Florida Statutes (1991), precluded the admission of expert testimony “converting blood alcohol content from a percentage of blood serum to a percentage of whole blood.” Id. at 596. The question arose from a workers’ compensation claim in which the employer had defended the claim on the basis that the employee was intoxicated at the time of his injury. See id. at 594.

Pertinent to the instant case, in determining that section 440.09(3) did not preclude the admission of the employer’s proffered expert testimony, this Court stated:

Serum blood alcohol tests meet the Frye standard of general scientific acceptance and have been accepted by other courts to establish blood alcohol levels. Thus, we answer the certified question in the negative: the statute does not preclude expert testimony converting blood alcohol content from a percentage of blood serum to a percentage of whole blood.

Id. at 596 (footnote and citation omitted). It is certainly implicit from our Domino’s Pizza holding that the Frye standard applies in workers’ compensation proceedings.

The courts of other jurisdictions have split on the question of whether the Frye standard applies in workers’ compensation proceedings. Unfortunately, the decisions do not provide clear guidance here, because the procedural rules governing workers’ compensation proceedings vary widely from jurisdiction to jurisdiction. In Nebraska and Kansas, states in which courts have held that admission of expert opinions in workers’ compensation proceedings is not subject

to the strictures of the Frye standard, the admission of evidence in the workers' compensation arena is not governed by any formal rules of evidence, unlike the situation in Florida. See Armstrong v. City of Wichita, 907 P.2d 923, 929 (Kan. Ct. App. 1995); Sheridan v. Catering Mgmt., Inc., 558 N.W.2d 319, 327 (Neb. Ct. App. 1997).

In Indiana, workers' compensation proceedings are subject to rules of evidence, just as in Florida, and expert opinion is inadmissible there unless it meets the Frye standard. In K-Mart Corp. v. Morrison, 609 N.E.2d 17 (Ind. Ct. App. 1993), the Indiana Court of Appeals (Third District) stated:

[W]e believe that in hearings before the workers' compensation board, novel scientific evidence must have been found to be reliable before it will be admissible into evidence. Just as under Frye, litigants in administrative hearings should have the assurance that novel scientific techniques are, at a minimum, reliable.

Id. at 26-27. Indeed, the Indiana court repeats the focus of this Court and Florida courts in general when it focuses on the purpose of performing the Frye test--to ensure reliability of decisions and results. Certainly, dependability of result is required for the adjudication of workers' compensation claims no less than in generic civil and criminal litigation.

As summarized by the court below, Henson asserts that

because the workers' compensation scheme is based on "a mutual renunciation of common law rights and defenses by employers and



employees alike," section 440.015, Florida Statutes (1995), the common law Frye standard could not be a bar to a claimant's recovery. In addition, he argues that Frye-testing medical testimony in workers' compensation cases would be contrary to section 440.29(4), Florida Statutes (1995), in which the legislature has provided that, upon proper motion, "[a]ll medical reports of authorized treating health care providers relating to the claimant and subject accident shall be received into evidence by the [JCC]." Finally, Henson submits that Frye testing is unnecessary to assure evidentiary reliability, because section 440.13(9)(c) provides for the appointment of expert medical advisors to assist the JCC with issues of medical causation and requires that the EMA [expert medical advisor] opinion "is presumed to be correct unless there is clear and convincing evidence to the contrary."

Henson, 787 So. 2d at 10. While we recognize that compensation proceedings may generally be more flexible and informal in nature, through careful examination it becomes plain that these assertions are without merit.

First, adoption of the Frye standard within the worker's compensation system does not conflict with the above-quoted portion of section 440.29(4), because this section's mandated admission of "medical reports" does not speak on the issue of expert opinions. This statutory provision only ensures the admission into evidence of the written records of the claimant's treating physicians, and does not address the content of expert opinion testimony. See § 440.29(4), Fla. Stat. (2001). Thus, section 440.29 has no bearing on the question before us.

Section 440.13(9), Florida Statutes (2001), defines the role and appointment of expert medical advisors (EMA's) in workers' compensation proceedings. While

the statutory framework certainly allows the JCC to rely upon an EMA's expert opinion, see § 440.13(9)(c) ("The opinion of the [EMA] is presumed to be correct unless there is clear and convincing evidence to the contrary as determined by the [JCC]."), none of the provisions of chapter 440 preclude or conflict with use of the Frye criteria to test and ensure the reliability of novel scientific methods utilized by any expert witness. See § 440.13(9), Fla. Stat. (2001).

Finally, the respondent contends that imposing upon the proponent of the expert opinion the burden of establishing that the basis for the opinion is generally accepted in its scientific field is inconsistent with the Legislature's stated intent that the workers' compensation system "assure the quick and efficient delivery of disability and medical benefits to an injured worker and to facilitate the worker's return to gainful reemployment." § 440.015, Fla. Stat. (2001). Indeed, the court below shared this fear, stating: "The imposition of a Frye standard of admissibility of novel scientific evidence will certainly increase the cost and create delay in workers' compensation proceedings." Henson, 787 So. 2d at 11. On this basis, the district court certified the issue to this Court.

Certainly, we recognize that in establishing the workers' compensation system, the Legislature intended to create an "efficient and self-executing system . . . which is not an economic or administrative burden." § 440.015, Fla. Stat. (2001).

In furtherance of this goal, the Legislature relaxed the burdens of proof for workers' compensation claimants. However, it is just as clear that it was "the specific intent of the Legislature that workers' compensation cases . . . be decided on their merits." Id. For this reason, it is only logical for us to explicitly extend the reasoning of our prior decisions in the civil and criminal arenas to the area of workers' compensation claims. The Frye test must be performed to ensure the trustworthiness of novel scientific theories. See, e.g., Brim, 695 So. 2d at 271-72. This principle applies in the adjudication of workers' compensation claims before the JCC just as it does in other litigation contexts.

Additionally, as the petitioner identifies, Henson's assertions that imposition of the Frye standard will lead to increased costs and delays of all workers' compensation claims are artificially overstated. By definition, the Frye standard only applies when an expert attempts to render an opinion that is based upon new or novel scientific techniques. See Ramirez v. State, 651 So. 2d 1164, 1166-67 (Fla. 1995). Therefore, in the vast majority of cases, no Frye inquiry will be required--because no innovative scientific theories will be at issue. Moreover, where purportedly new and novel science is to be submitted to a trier of fact, we conclude that proper exploration of its basis is warranted, whether in disputes over workers' compensation claims or in other litigation areas.

We commend and approve the thoughtful analysis performed by the district court below evaluating the general acceptance of the methodologies and scientific principles supporting Henson's experts' opinions. We have stated repeatedly that appellate review of Frye determinations is de novo. See, e.g., Brim, 695 So. 2d at 274; Murray, 692 So. 2d at 164. Additionally, in Hadden v. State, this Court stated:

When undertaking such a review, an appellate court should consider the issue of general acceptance at the time of appeal rather than at the time of trial. An appellate court may examine expert testimony, scientific and legal writings, and judicial opinions in making its determination.

Hadden, 690 So. 2d at 579 (citations omitted); see also Flanagan v. State, 625 So. 2d 827, 828-29 (Fla. 1993). In its opinion, the court below fully and ably complied with this Court's directions regarding the proper review to be given to Frye determinations and their proper application in this case. Therefore, the petitioner's contention that the First District's review was improper is without merit.

Additionally, the district court below performed an excellent comprehensive, and exhaustive inquiry into the general acceptance of the methods used by Henson's experts. It is generally accepted in the scientific community that "organophosphates are neurotoxic." Henson, 787 So. 2d at 16 (citing multiple

textbooks and handbooks). As the court below stated:

Because of this generally accepted scientific foundation, the “extrapolation” method utilized by these experts in concluding that chronic exposure to these pesticides caused claimant’s condition is an acceptable scientific technique in this case.

Id. at 17; see also, e.g., Kennedy v. Collagen Corp., 161 F.3d 1226, 1229 (9th Cir. 1998) (allowing a clinical medical expert to render an opinion on causation “as long as it is based on methods reasonably relied on by experts in their field”); Berry v. CSX Transp., Inc., 709 So. 2d 552, 567 (Fla. 1st DCA 1998). We conclude that under Frye and its Florida progeny, when the expert’s opinion is based upon generally accepted scientific principles and methodology, it is not necessary that the expert’s deductions based thereon and opinion also be generally accepted as well. Also, there is no question that the differential diagnosis technique used by Henson’s experts is generally accepted in the scientific community. See In re Paoli R.R. Yard PCB Litig., 35 F.3d 717, 756 (3d Cir. 1994) (deeming differential diagnosis a “hallmark” of internal medicine); Berry, 709 So. 2d at 571. Finally, it is well settled that a lack of epidemiological studies does not defeat submission of expert testimony and opinions as expressed in this case. See, e.g., Kennedy, 161 F.3d at 1230 (“The fact that a cause-effect relationship . . . has not been conclusively established does not render Dr. Spindler’s testimony inadmissible.”); City of Greenville v. W.R. Grace & Co., 827 F.2d 975, 980 n.2

(4th Cir. 1987) (holding that epidemiological studies are not required prior to expert opinion admissibility).

We wish to highlight the principle that under 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. For this reason, we disapprove any holding contrary to this principle contained in E.I. DuPont De Nemours & Co., Inc. v. Castillo, 748 So. 2d 1108 (Fla. 3d DCA 2000), review granted, 770 So. 2d 156 (Fla. 2000). To the extent that the decision in E.I. DuPont holds that both the basis for the expert’s opinions, and the opinion and deductions themselves, must be generally accepted as a predicate to admissibility, it is explicitly disapproved. 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.

### Conclusion

Based upon the foregoing analysis, we approve the First District's holding in all respects and answer the certified question in the affirmative.

It is so ordered.

WELLS, C.J., and SHAW, HARDING, ANSTEAD, PARIENTE, and QUINCE, JJ., concur.

NOT FINAL UNTIL TIME EXPIRES TO FILE REHEARING MOTION, AND IF FILED, DETERMINED.

Application for Review of the Decision of the District Court of Appeal - Certified Great Public Importance

First District - Case No. 1D99-2798

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