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GILBERT HAYES *v.* MARK J. DECKER
(SC 16692)

Sullivan, C. J., and Katz, Palmer, Vertefeuille and Zarella, Js.

Argued January 7—officially released June 3, 2003

Paul T. Nowosadko, with whom was *Lorinda S. Coon*, for the appellant (defendant).

Gary J. Strickland, for the appellee (plaintiff).

David N. Rosen and *Michael P. Koskoff* filed a brief for the Connecticut Trial Lawyers Association as amicus curiae.

Opinion

SULLIVAN, C. J. The defendant, Mark J. Decker, a physician, appeals from the judgment of the Appellate Court reversing the trial court's judgment in his favor and granting the plaintiff, Gilbert Hayes, a new trial. The sole question in this certified appeal is ''[d]id the Appellate Court properly conclude that the plaintiff's expert's proffered testimony regarding the effect of discontinuation of blood pressure medication should have been admitted into evidence?'' *Hayes* v. *Decker*, 259 Conn. 928, 793 A.2d 253 (2002). We conclude that the Appellate Court's conclusion was correct and, accordingly, affirm the judgment of the Appellate Court.

The opinion of the Appellate Court sets forth the following relevant facts and procedural history. ''On May 12, 1995, the plaintiff, who was fifty years old, went to the defendant, an internist, for a physical examination. During the examination, he reported sexual dysfunction and multiple cardiac risk factors, including age greater than forty, high cholesterol, overweight, chest pain, smoking, and a family history of vascular disease and hypertension, for which he was taking Procardia XL as prescribed by his kidney physician. The defendant suggested that the plaintiff lose weight to control his blood pressure and that he stop taking Procardia for a trial period as a possible solution to his impotence problem.

''By the time of his next visit to the defendant's office on June 2, 1995, the plaintiff had lost fifteen pounds and his systolic and diastolic blood pressure reading had dropped from 160 over 110 to 120 over 90. The defendant again suggested that the plaintiff stop taking Procardia as a possible cure for his impotence. The defendant did not consult with the plaintiff's kidney physician before making this recommendation and did not prescribe any substitute blood pressure medication, as he apparently believed that the plaintiff's blood pressure could be controlled adequately by weight reduction and exercise. Approximately one week later, the plaintiff stopped taking Procardia. Two weeks later, his blood pressure reading was 140 over 95.

''On July 9, 1995, the plaintiff suffered a massive heart attack. During the attack, his diastolic pressure rose to 120. At the hospital, he underwent catheterization and primary angioplasty. In performing this procedure, physicians discovered that his left anterior descending artery was totally occluded and that there was significant stenosis of the right coronary artery. Two months later, the plaintiff underwent triple bypass surgery.

''In his complaint dated June 30, 1997, the plaintiff claimed that the defendant negligently failed to recog-

nize and treat symptoms of cardiac ischemia and permitted him to discontinue the Procardia without substituting another blood pressure medication. The case was tried to a jury, which returned a verdict for the defendant. Thereafter, the court denied the plaintiff's motion to set aside the verdict and rendered judgment for the defendant.'' *Hayes* v. *Decker*, 66 Conn. App. 293, 295–96, 784 A.2d 417 (2001).

''At trial, the defendant filed a motion to exclude proposed testimony by the plaintiff's expert witness, Richard Friedlander, pursuant to *State* v. *Porter*, 241 Conn. 57, 698 A.2d 739 (1997) (en banc), cert. denied, 523 U.S. 1058, 118 S. Ct. 1384, 140 L. Ed. 2d 645 (1998). Friedlander was a board certified physician in internal medicine and cardiology who had treated hundreds, perhaps thousands, of patients during his career, and who at one time directed cardiovascular clinical research for a pharmaceutical company. At the hearing on the motion, Friedlander stated his 'belief' and 'opinion' that, although the discontinuation of the plaintiff's blood pressure medication did not cause his heart attack, it did cause his blood pressure to rise and resulted in more tissue damage than otherwise would have occurred had he not stopped taking the medication. Friedlander based his opinion on the fact that numerous studies show, and it is generally accepted within the scientific community, that an increase in blood pressure results in an increase in the demand of heart muscle tissue for oxygen, and that increased blood pressure and oxygen demand during the acute phase of a heart attack result in increased tissue death. He also testified that studies have shown that Procardia, a well known blood pressure medication, lowers blood pressure in most individuals.

''Friedlander acknowledged, however, that he did not know of any research or completed study documenting a link between the discontinuance of blood pressure medication and an increase in the severity of a subsequent heart attack. He also could not point to any scientific articles, studies or treatises concluding that specific increases in blood pressure result in specific amounts of heart muscle damage. He testified that such studies would be impossible to conduct because 'you are comparing what is to what would have been' in a single heart attack patient. Moreover, he did not attempt to quantify how much additional heart muscle damage the plaintiff might have suffered as a result of discontinuing his medication.

''The [trial] court 'reluctantly' ruled, on the basis of the standard articulated in *Porter* for the admissibility of scientific evidence, that because there was no study concluding that the withdrawal of Procardia will increase the severity of a heart attack, Friedlander's proposed testimony was 'speculative' and hence inadmissible. In denying the plaintiff's subsequent motion

to set aside the verdict, the [trial] court similarly stated that, in the absence of any evidence in the form of treatises or publications establishing that the withdrawal of Procardia increases the severity of a heart attack, it saw no reason to change its opinion.''[1] *Hayes* v. *Decker*, supra, 66 Conn. App. 296–98.

Following judgment for the defendant, the plaintiff appealed, claiming that the trial court improperly had granted the defendant's motion to exclude scientific testimony because it had misapplied the standard for the admission of scientific testimony as set forth in *State* v. *Porter*, supra, 241 Conn. 57. The Appellate Court reversed the judgment of the trial court, concluding that ''the [trial] court incorrectly applied the law as set forth in *Porter*. Friedlander's testimony as to whether the discontinuation of the plaintiff's blood pressure medication increased the severity of his heart attack should have been considered under the standards for the admissibility of expert opinion testimony; his testimony on the well documented effect of Procardia in lowering blood pressure and the relationship between blood pressure and tissue damage during a heart attack should have been considered under the standard for the admissibility of scientific evidence under *Porter*, or simply admitted on a showing of relevance. The [trial] court never made this crucial distinction and, in applying the *Porter* analysis to Friedlander's opinion rather than to the scientific evidence on which it was based, improperly excluded all of his proposed testimony on Procardia, blood pressure and the amount of tissue damage that may occur during a heart attack.'' *Hayes* v. *Decker*, supra, 66 Conn. App. 300.

The defendant brought this certified appeal, claiming that the Appellate Court improperly concluded that the trial court's analysis and application of *Porter* to Friedlander's proffered testimony was incorrect. The defendant also claims that any remand should be limited in scope to the issue of whether the defendant negligently advised the plaintiff to discontinue the use of Procardia. We conclude that the trial court abused its discretion in excluding Friedlander's testimony and, accordingly, affirm the judgment of the Appellate Court. We further conclude that the Appellate Court properly remanded the case for a new trial on all the issues raised in the plaintiff's complaint.

I

The defendant first claims that the Appellate Court improperly concluded that the trial court's analysis and application of *Porter* was incorrect. We disagree.

''As a threshold matter, we set forth the standard by which we review the trial court's determinations concerning the [admissibility] of evidence. The trial court's ruling on evidentiary matters will be overturned only upon a showing of a clear abuse of the court's

discretion. . . . We will make every reasonable presumption in favor of upholding the trial court's ruling, and only upset it for a manifest abuse of discretion. . . . [Thus, our] review of such rulings is limited to the questions of whether the trial court correctly applied the law and reasonably could have reached the conclusion that it did. . . .

"Concerning expert testimony specifically, we note that the trial court has wide discretion in ruling on the admissibility of expert testimony and, unless that discretion has been abused or the ruling involves a clear misconception of the law, the trial court's decision will not be disturbed. . . . Expert testimony should be admitted when: (1) the witness has a special skill or knowledge directly applicable to a matter in issue, (2) that skill or knowledge is not common to the average person, and (3) the testimony would be helpful to the court or jury in considering the issues." (Internal quotation marks omitted.) *State* v. *Vega*, 259 Conn. 374, 392, 788 A.2d 1221, cert. denied, U.S. , 123 S. Ct. 152, 154 L. Ed. 2d 56 (2002).

There is a further hurdle to the admissibility of expert testimony when that testimony is based on innovative scientific techniques. In those situations, the scientific evidence that forms the basis for the expert's opinion must undergo a validity assessment to ensure reliability. *State* v. *Porter*, supra, 241 Conn. 68–69. "In *Porter*, this court followed the United States Supreme Court's decision in *Daubert* v. *Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (1993), and held that scientific evidence should be subjected to a flexible test, with differing factors that are applied on a case-by-case basis, to determine the reliability of the scientific evidence." *State* v. *Reid*, 254 Conn. 540, 545, 757 A.2d 482 (2000).

In *Porter* we began by noting that there is a "distinction under the *Daubert* approach between the methodologies underlying an expert's scientific testimony and the expert opinion itself. As the court in *Daubert* noted, the focus of a validity assessment 'must be solely on principles and methodology, not on the conclusions that they generate.' . . . So long as the methodology underlying a scientific opinion has the requisite validity, the testimony derived from that methodology meets the *Daubert* threshold for admissibility, even if the judge disagrees with the ultimate opinion arising from that methodology, *and even if there are other methodologies that might lead to contrary conclusions*. Thus, a judge should admit scientific testimony when 'there are good grounds for [the] expert's conclusion, even if the judge thinks that there are better grounds for some alternative conclusion . . . .' " (Citation omitted; emphasis in original.) *State* v. *Porter*, supra, 241 Conn. 81–82.

In the present case, the trial court excluded Friedlander's proffered testimony on two grounds: (1)

because there were no studies stating that withdrawal of Procardia would increase the severity of a heart attack; and (2) because it concluded that the more reliable evidence was that the speed of treatment decreases the severity of a heart attack. See footnote 1 of this opinion. The Appellate Court first concluded that both of these grounds improperly focused on the conclusions Friedlander reached, not the premises upon which they were predicated. *Hayes* v. *Decker*, supra, 66 Conn. App. 300. The Appellate Court further concluded that if *Porter* applies in the present case, it would apply to the premises underlying Friedlander's opinion. Id. The Appellate Court further noted, however, that the premises might have been admissible on a showing of relevance. Id.

The trial court's ruling on the admissibility of Friedlander's testimony was explicitly based on application of the *Porter* standard to his conclusion. The trial court stated that the testimony was inadmissible because ''apparently there is no evidence, no study that says that withdrawal of Procardia will increase the intensity of the heart attack.''[2] See footnote 1 of this opinion. As we noted in *Porter*, however, ''the focus of a validity assessment must be solely on principles and methodology, *not on the conclusions that they generate*.'' (Emphasis added; internal quotation marks omitted.) *State* v. *Porter*, supra, 241 Conn. 81. The *Porter* analysis is meant to determine whether the methodologies or premises underlying an expert witness' conclusions are valid, not to assess the credibility of the expert's ultimate conclusion. An expert witness is permitted to give opinion testimony provided that the ''witness [has been] qualified as an expert . . . if the testimony will assist the trier of fact in understanding the evidence or in determining a fact in issue.'' Conn. Code Evid. § 7-2.

Moreover, we note that the trial court's second ground for excluding the expert's testimony was also a misapplication of the law as set forth in *Porter*. The trial court stated that it found ''more reliable [the evidence] that the speed of supplying treatment decreases the damage or the intensity of the heart attack, so that no matter what the problem that caused it, if treatment were supplied fairly immediately, damage would be decreased . . . .'' In *Porter*, we stated that testimony derived from a scientifically valid methodology is admissible ''*even if the judge thinks that there are better grounds for some alterative conclusion . . . .*'' (Emphasis added; internal quotation marks omitted.) *State* v. *Porter*, supra, 241 Conn. 81–82. Although there may have been better grounds to conclude that the speed of treatment decreases the severity of a heart attack, that determination is irrelevant. Under *Porter*, a trial court does not have the discretion to exclude expert testimony because it believes there are better grounds for an alternative conclusion. Accordingly, we conclude that the Appellate Court correctly concluded

that the trial court misapplied the law as set forth in *Porter* and that Friedlander's conclusion should have been considered under the standards for the admissibility of expert testimony.

Having determined that the trial court misapplied *Porter*, we must now determine whether *Porter* applies to the premises underlying Freidlander's conclusion, that is whether those premises are ''the type of evidence contemplated by *Porter*.'' (Internal quotation marks omitted.) *State* v. *Kirsch*, 263 Conn. 390, 403, A.2d (2003). We conclude that they are not.

In *Porter*, we noted that not all premises are subject to the *Porter* validity assessment. We stated that ''some scientific principles have become so well established that an explicit *Daubert* analysis is not necessary for admission of evidence thereunder. . . . Evidence derived from such principles would clearly withstand a *Daubert* analysis, and thus may be admitted simply on a showing of relevance.'' (Internal quotation marks omitted.) *State* v. *Reid*, supra, 254 Conn. 546, citing *State* v. *Porter*, supra, 241 Conn. 85 n.30; see also *State* v. *Kirsch*, supra, 263 Conn. 402–403.

''Although this court in *Porter* explicitly adopted the *Daubert* test to determine the admissibility of scientific evidence . . . we did not explicitly overrule Connecticut precedent regarding the evidence to which such a test should apply. Prior to *Porter*, this court had recognized that the *Frye* [v. *United States*, 293 F. 1013 (D.C. Cir. 1923)] test for admissibility should not apply to all expert testimony, but only to that which involves innovative scientific techniques . . . .'' (Citation omitted; internal quotation marks omitted.) *State* v. *Kirsch*, supra, 263 Conn. 403.

The validity assessments of *Frye*, and now *Porter*, ''[find their] rational basis in the degree to which the trier of fact must accept, on faith, scientific hypotheses [not] capable of proof or disproof in court and not even generally accepted outside the courtroom. . . . [The validity assessment] contemplates those situations in which the evidence sought to be admitted is beyond the understanding of the ordinary juror who must sacrifice his independent judgment in deference to the expert. . . . Among the dangers created by such scientific evidence is its potential to mislead lay jurors awed by an aura of mystic infallibility surrounding scientific techniques, experts and the fancy devices employed. . . . The fact that a technique or method [meets the *Porter* standard] tends to ensure that the jury will not accord undue weight to theories whose validity [have] not been adequately tested. . . .

''Such infirmities do not inhere in all types of expert evidence. Accordingly, the [validity assessment] has been either ignored or rejected in cases in which the method used by the expert was a matter of physical

comparison rather than scientific test or experiment . . . the basic data upon which the expert relied was verifiable by the factfinder . . . or where established techniques were applied to the solution of novel problems. . . . In such cases, the jury is in a position to weigh the probative value of the testimony without abandoning common sense and sacrificing independent judgment to the expert's assertions based on his special skill or knowledge. . . . Furthermore, where understanding of the method is accessible to the jury, and not dependent on familiarity with highly technical or obscure scientific theories, the expert's qualifications, and the logical bases of his opinions and conclusions can be effectively challenged by cross-examination and rebuttal evidence.'' (Citations omitted; internal quotation marks omitted.) *State* v. *Hasan*, 205 Conn. 485, 490–91, 534 A.2d 877 (1987); see also *State* v. *Sherman*, 38 Conn. App. 371, 410–11, 662 A.2d 767, cert. denied, 235 Conn. 905, 665 A.2d 905 (1995) (concluding that *Frye* did not apply to expert testimony on time of death based on generally accepted principles of pathology and general expertise in field of pathology).

We conclude that the premises underlying Friedlander's testimony were not the type of evidence contemplated by *Porter*. His opinion was based on three principles, namely that (1) an increase in blood pressure causes an increase in the heart's demand for oxygen; (2) oxygen deprivation to the heart causes heart tissue death; and (3) increased blood pressure during a heart attack causes increased heart tissue damage. The Appellate Court concluded, on the basis of Friedlander's testimony, that these are generally accepted principles of cardiology, which are supported by numerous studies. This is not the type of ''junk science'' that *Porter* is intended to guard against. Nor are these principles ''obscure scientific theories . . . that had the potential to mislead lay jurors awed by an aura of mystic infallibility surrounding scientific techniques, experts and the fancy devices employed.'' (Citation omitted; internal quotation marks omitted.) *State* v. *Reid*, supra, 254 Conn. 547. Rather, these are well established principles of the scientific community to which *Porter* simply does not apply. Accordingly, Friedlander's testimony based on these principles should have been admitted upon a showing of relevance.[3]

II

The defendant next claims that any remand should be limited to the issue in error, specifically, to the theory that withdrawal of Procardia increased the severity of the plaintiff's heart attack. The defendant bases this claim on General Statutes § 52-266[4] and this court's decision in *Logan* v. *Greenwich Hospital Assn.*, 191 Conn. 282, 465 A.2d 294 (1983).[5] We disagree.

We find more persuasive, this court's decision in *Burns* v. *Hanson*, 249 Conn. 809, 734 A.2d 964 (1999).

The defendant in that case brought a single claim of negligence against her physician based on both an alleged misdiagnosis of her pregnancy and the alleged rendering of improper sterility advice. Id., 828. On appeal, this court concluded that the trial court improperly had excluded evidence related to the claimed misdiagnosis and ordered a new trial. Id. Relying on *Logan*, the defendant physician claimed that the new trial should be limited in scope, contending that ''the improperly excluded evidence related only to the misdiagnosis of [the plaintiff's] pregnancy and, therefore, [did] not affect the finality of the jury's finding against her on her claim of improper sterility advice.'' Id. We rejected this argument, stating that ''[t]he plaintiff's claim of harm arises from the alleged negligence of one individual in a single course of extensive treatment resulting in a single set of claimed damages. The plaintiff alleged that the defendant's negligent conduct, both in providing sterility advice and not detecting the pregnancy, caused her to suffer harm including and arising from her unplanned pregnancy. Unlike *Logan*, the issues are conjoint rather than separate.'' Id., 829.

We conclude that, for the same reasons set forth in *Burns*, the Appellate Court properly remanded the case for a new trial on all of the allegations in the complaint. In the present case the plaintiff's claim of harm arises from the alleged negligence of one single defendant resulting in a single set of claimed damages. The plaintiff alleges that the defendant's negligent conduct, both in advising him to discontinue the use of Procardia and in misdiagnosing his heart condition, caused him to suffer harm including and arising from his heart attack. Accordingly, the alleged harm arises from a single course of allegedly negligent conduct. Unlike those in *Logan*, the issues here are conjoint rather than separate. Accordingly, we conclude that on remand the plaintiff may submit evidence in support of all aspects of liability that were included in his original complaint.

The judgment of the Appellate Court is affirmed.

In this opinion KATZ, PALMER and ZARELLA, Js., concurred.

[1] Specifically, the trial court stated that, ''the problem I am finding with [the conclusion that withdrawal of Procardia increased the severity of the plaintiff's heart attack] is apparently there is no evidence, no study that says that withdrawal of Procardia will increase the intensity of the heart attack. In fact, the evidence that I find is more reliable is that the speed of supplying treatment decreases the damage or the intensity of the heart attack, so that no matter what the problem that caused it, if treatment were supplied fairly immediately, damage would be decreased, so my conclusion [is], even though I am reluctant to do so, that the claim is only speculative and I grant the [defendant's motion in limine].'' The trial court reiterated this finding in denying the plaintiff's motion to set aside the verdict, stating that ''when questioned, [Friedlander] provided no evidence, whether in the form of treatises, publications or anything else, that withdrawal of Procardia would increase the intensity of a heart attack. He had nothing at all to support his proposed opinion. What he did say, however, is that the speed of applying treatment . . . decreases the intensity of the heart attack, so there was nothing at all that I heard that gave any support whatsoever for opinion testimony on the subject of the effect on a heart attack of withdrawal

of Procardia.''

[2] We further note that the trial court stated explicitly that its ruling was based on the fact that Friedlander's opinion was not supported by any treatises or studies. Peer review and publication is, however, only one of several nonexclusive factors. See *State* v. *Porter*, supra, 241 Conn. 77–81. No single *Porter* factor is dispositive. Indeed, as the United States Supreme Court stated in *Daubert*, ''[m]any factors will bear on the inquiry [of whether the proffered scientific evidence is valid], and we do not presume to set out a definitive checklist or test.'' *Daubert* v. *Merrell Dow Pharmaceuticals, Inc.*, supra, 509 U.S. 593. Moreover, as this court noted in *Porter*, mechanical factor tests have little analytical value, tend to obscure the principles upon which the court should be relying and serve as a label to justify a court's instinctive reaction. *State* v. *Porter*, supra, 79–80. By excluding Friedlander's testimony on the basis of one *Porter* factor, the trial court improperly treated *Porter* as a mechanical factor test rather than the flexible analysis that it is intended to be.

[3] The defendant also claims that Friedlander's testimony was properly excluded on the alternate ground that Friedlander was unable to quantify the alleged increase in heart muscle damage attributable to the discontinuation of Procardia. This ground, however, was not the basis for the trial court's ruling and was not addressed by the Appellate Court. Accordingly, we decline to address this issue.

[4] General Statutes § 52-266 provides that ''[i]f several issues are presented by the pleadings and, on the trial of one or more of such issues, an error or ground for a new trial intervenes which does not affect the legality of the trial or disposition of the other issue or issues, judgment shall not be arrested or reversed, nor a new trial granted, except so far as relates to the particular issue or issues in the trial of which such error or ground for a new trial intervened.''

[5] In *Logan* v. *Greenwich Hospital Assn.*, supra, 191 Conn. 287, a medical malpractice action, the plaintiff filed a two count complaint ''the first [count] being directed against the defendant hospital and the second against the three [physicians] who in some manner had been connected with [the alleged harm].'' The trial court directed a verdict in favor of the hospital and one of the three physicians, and the jury found for the other two physicians. Id., 284. This court reversed the trial court's judgment with respect to one of the physicians, concluding that a claimed error in the jury charge on lack of informed consent constituted a ground for reversal. Id., 308. We also concluded, however, that the trial court properly directed a verdict for the hospital and one of the physicians. Id., 303–304. Finally, we concluded, relying on § 52-266, that the erroneous jury charge ''infect[ed] only the theory of the complaint based upon a failure to obtain an informed consent. The necessity for a new trial, therefore, is limited to that issue and to the defendant . . . whose sole duty it was to provide the requisite information to the plaintiff.'' Id., 308.