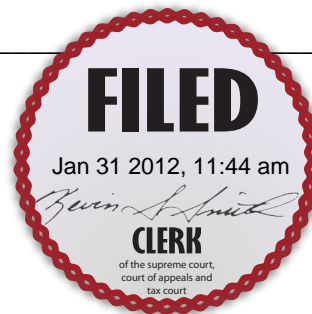


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In the
Indiana Supreme Court



No. 20S03-1105-CV-293

HENRY C. BENNETT AND SCHUPAN
& SONS, INC.,

Appellants (Defendants below),

v.

JOHN RICHMOND AND JENNIFER
RICHMOND,

Appellees (Plaintiffs below).

Appeal from the Elkhart Superior Court, No. 20D01-0512-CT-700
The Honorable Evan S. Roberts, Judge

On Petition to Transfer from the Indiana Court of Appeals, No. 20A03-0906-CV-285

January 31, 2012

Sullivan, Justice.

The sole issue in this appeal is whether the trial court abused its discretion when it permitted a psychologist to testify on behalf of a plaintiff in a personal injury case as to the cause of a brain injury.¹ Finding the trial court did not abuse its discretion in this regard, we affirm.

¹ This case involves similar issues to those we address in another case decided today, Person v. Shipley, No. 20S03-1110-CT-609, ___ N.E.2d ___ (Ind. 2012).

Background

In May, 2004, Henry Bennett, while operating a roll-off container truck for Schupan & Sons, Inc. (referred to collectively as “Bennett”), rear-ended John Richmond’s vehicle. Bennett’s truck weighed 42,000 pounds; Richmond was driving a van. In December, 2005, Richmond and his wife sued Bennett for injuries Richmond sustained in the collision to his neck and back.²

In October, 2006, pursuant to a referral by his attorney, Richmond underwent a neuropsychological evaluation with Dr. Sheridan McCabe, a psychologist. Richmond had been experiencing headaches and memory loss since the accident but had not been diagnosed with a brain injury. Dr. McCabe reviewed Richmond’s medical records and Richmond’s deposition; he also interviewed Richmond and his wife and administered a battery of neuropsychological tests to Richmond. As a result of the evaluation, Dr. McCabe testified that Richmond had “experienced a traumatic brain injury in the accident.” Appellant’s App. 105. This testimony forms the basis of this appeal.

Bennett objected to Dr. McCabe as an expert witness on three separate occasions during this litigation, each time challenging the admissibility of Dr. McCabe’s testimony that Richmond experienced a traumatic brain injury in the accident. Bennett first filed a pretrial motion to exclude Dr. McCabe as an expert witness. The trial court denied Bennett’s motion.³ Bennett again objected to Dr. McCabe’s testimony at trial, which the trial court overruled. Then, after the jury returned a \$200,000 judgment in favor of Richmond, Bennett filed a motion to correct error on the basis that Dr. McCabe should not have been permitted to testify. The trial court also denied that motion.

² Richmond also sustained a back injury in the course of his employment in December, 2004, which apparently exacerbated the injuries he had sustained in the May, 2004, accident.

³ The trial court also denied Richmond’s motion to exclude Dr. David Kareken, a psychologist who had examined Richmond on behalf of Bennett. Bennett, however, did not call Dr. Kareken as a witness at trial.

Bennett appealed, contending that the trial court erred when it permitted Dr. McCabe to testify that Richmond had sustained a traumatic brain injury in the accident.⁴ The Court of Appeals agreed and reversed and remanded the case for a new trial. Bennett v. Richmond, 932 N.E.2d 704, 712 (Ind. Ct. App. 2010), reh'g denied.

Richmond sought, and we granted, transfer, Bennett v. Richmond, 950 N.E.2d 1209 (Ind. 2011) (table), thereby vacating the opinion of the Court of Appeals, Ind. Appellate Rule 58(A).⁵

Discussion

I

While there is little dispute that a psychologist may testify as to the existence of a brain injury or the condition of the brain in general, the specific issue in this case – whether psychologists or neuropsychologists⁶ may testify as to the cause of a brain injury – is one that has divided jurisdictions. Hutchison v. Am. Family Mut. Ins. Co., 514 N.W.2d 882, 886-87 (Iowa 1994); see also Landers v. Chrysler Corp., 963 S.W.2d 275, 280-81 (Mo. Ct. App. 1997) (discussing jurisdictional split), overruled on other grounds by Hampton v. Big Boy Steel Erection, 121 S.W.3d 220, 223, 226 (Mo. 2003) (en banc); Joseph M. Desmond, Admissibility of Neuropsychological Evidence in New Hampshire, N.H. B.J., Winter 2007, at 12, 15 & n.40 (same). A majority of jurisdictions have allowed such testimony, basing their reasoning on relevant statutes or case law, evidence rules, common sense, or some combination of these. See, e.g., Fabianke v. Weaver, 527 So. 2d 1253, 1257 (Ala. 1988); Huntoon v. TCI Cablevision of Colo., Inc., 969 P.2d 681, 690-91 (Colo. 1998) (en banc); Valiulis v. Scheffels, 547 N.E.2d 1289, 1296-97 (Ill. App. Ct. 1989); Hutchison, 514 N.W.2d at 887-89; Landers, 963 S.W.2d at 281-82; Sanchez v. Derby,

⁴ Bennett's brief in the Court of Appeals suggests that he also challenges Dr. McCabe's qualifications to evaluate whether Richmond in fact suffers from a brain injury. However, in subsequent filings in that court and during oral argument before this Court, Bennett clarified that he only challenges Dr. McCabe's qualifications to offer an opinion as to the cause of Richmond's brain injury.

⁵ We have been advised that John Richmond passed away in February, 2011, and that an Estate has been opened for the purposes of this case.

⁶ “[N]europsychology” is a term used by psychologists to self-designate themselves as having expertise in diagnosing brain injuries.” Joseph M. Desmond, Admissibility of Neuropsychological Evidence in New Hampshire, N.H. B.J., Winter 2007, at 12, 14.

433 N.W.2d 523, 525 (Neb. 1989) (per curiam); Adamson v. Chiovaro, 705 A.2d 402, 405-06 (N.J. Super. Ct. App. Div. 1998); Madrid v. Univ. of Cal., 737 P.2d 74, 76-78 (N.M. 1987); Cunningham v. Montgomery, 921 P.2d 1355, 1358-60 (Or. Ct. App. 1996) (en banc); Howle v. PYA/Monarch, Inc., 344 S.E.2d 157, 160-61 (S.C. Ct. App. 1986); Seneca Falls Greenhouse & Nursery v. Layton, 389 S.E.2d 184, 186-87 (Va. Ct. App. 1990); cf. Davison v. Cole Sewell Corp., No. 2:04-cv-852, 2006 U.S. Dist. LEXIS 52162, at *22-24 (S.D. Ohio July 28, 2006) (applying Fed. R. Evid. 702), aff'd on other grounds, No. 06-4079, 2007 U.S. App. LEXIS 16558 (6th Cir. June 29, 2007). Others have disallowed it, reasoning that psychologists are not medical doctors trained in the physiological aspects of the human body. See, e.g., Grenitz v. Tomlian, 858 So. 2d 999, 1001-03 (Fla. 2003)⁷; Chandler Exterminators, Inc. v. Morris, 416 S.E.2d 277, 278-79 (Ga. 1992), overruled by statute as stated in Sinkfield v. Oh, 495 S.E.2d 94, 97 (Ga. Ct. App. 1997); Hicks v. Cummings, No. S-85-49, 1987 Ohio. App. LEXIS 7425, at *7-8 (Ohio Ct. App. June 12, 1987).

For its part, the Court of Appeals in this case held that psychologists are not per se unqualified to opine on issues of medical causation, but rather, under Indiana Evidence Rule 702, they may be qualified to give such an opinion based on certain knowledge, skill, experience, training, or education. Bennett, 932 N.E.2d at 710 n.3.

Although we disagree with the result reached by the Court of Appeals, we do agree with its general approach in this case, and in doing so, align ourselves with those jurisdictions analyzing the issue of whether a psychologist may testify in this regard under the various Rule 702 analogs. See, e.g., Davison, 2006 U.S. Dist. LEXIS 52162, at *22-24; Huntoon, 969 P.2d at 690; Hutchison, 514 N.W.2d at 887-88; Cunningham, 921 P.2d at 1360. Neither the criteria for qualifying under Rule 702 (knowledge, skill, experience, training, or education) nor the purpose for which expert testimony is admitted (to assist the trier of fact) supports a per se rule banning psy-

⁷ Five members of the Supreme Court of Florida in Grenitz v. Tomlian agreed that neuropsychologists were not qualified to testify as to the medical cause of organic brain damage, while two members rejected a bright-line rule that neuropsychologists can never testify in this regard. Compare Grenitz, 858 So. 2d at 1002-03 (neuropsychologist not qualified to testify as to the medical cause of organic brain damage), and id. at 1011 (Wells, J., concurring in part and dissenting in part) (same), with id. at 1007-08 (Pariente, J., concurring in result only) (rejecting bright-line rule that properly qualified neuropsychologist can never testify as to the cause of brain damage).

chologists' testimony in this manner. See Hutchison, 514 N.W.2d at 887-88 (criteria too broad to allow distinctions based on profession or degree); Madrid, 737 P.2d at 77 (blanket disqualification of those with specialized knowledge in psychology would not assist the jury).⁸ Thus, we are faced with the specific issue of whether the trial court erred in admitting Dr. McCabe's causation testimony under Rule 702.

II

Bennett objected to Dr. McCabe's testimony under Rule 702 on the basis that Dr. McCabe was "not qualified to render an opinion regarding a medical diagnosis of a brain injury," Appellant's App. 104, which, as noted in footnote 4, supra, we view as a challenge to Dr. McCabe's testimony as to the cause of Richmond's brain injury. "A trial court's determination regarding the admissibility of expert testimony under Rule 702 is a matter within its broad discretion and will be reversed only for abuse of that discretion." TRW Vehicle Safety Sys., Inc. v. Moore, 936 N.E.2d 201, 216 (Ind. 2010) (citations omitted). We presume that the trial court's decision is correct, and the burden is on the party challenging the decision to persuade us that the trial court has abused its discretion. Id.

The trial court is considered the gatekeeper for the admissibility of expert opinion evidence under Rule 702. Doe v. Shults-Lewis Child & Family Servs., Inc., 718 N.E.2d 738, 750 (Ind. 1999). With regard to the admissibility of expert testimony, Rule 702 provides:

- (a) If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise.
- (b) Expert scientific testimony is admissible only if the court is satisfied that the scientific principles upon which the expert testimony rests are reliable.

⁸ We note that this approach differs from the per se exclusion by the Court of Appeals of nurses' testimony in medical malpractice cases on the medical cause of injuries. See Long v. Methodist Hosp. of Ind., Inc., 699 N.E.2d 1164, 1169 (Ind. Ct. App. 1998) (holding that nurses are not qualified to offer expert testimony as to the medical cause of injuries), trans. denied; see also Nasser v. St. Vincent Hosp. & Health Servs., 926 N.E.2d 43, 50-52 (Ind. Ct. App. 2010) (following Long), trans. denied, 940 N.E.2d 822 (Ind. 2010) (table); Clarian Health Partners, Inc. v. Wagler, 925 N.E.2d 388, 395-98 (Ind. Ct. App. 2010) (same), trans. denied, 940 N.E.2d 822 (Ind. 2010) (table).

Ind. Evidence Rule 702. “By requiring trial courts to be satisfied that expert opinions will assist the fact-finder and that the underlying scientific principles are reliable, Rule 702 guides the admission of expert scientific testimony.” Sears Roebuck & Co. v. Manuilov, 742 N.E.2d 453, 460 (Ind. 2001) (plurality opinion). Once the admissibility of the expert’s opinion is established under Rule 702, “then the accuracy, consistency, and credibility of the expert’s opinions may properly be left to vigorous cross-examination, presentation of contrary evidence, argument of counsel, and resolution by the trier of fact.” Id. at 461 (citation omitted).

A

With regard to his qualifications, Dr. McCabe obtained a Masters degree in General Psychology in 1956 and a Ph.D. in Counseling Psychology in 1958.⁹ He taught in the psychology department at the University of Portland from 1958 to 1967 and taught courses in performing psychological assessments at the University of Notre Dame from 1967-1997. Dr. McCabe served as a psychological consultant for Elkhart General Hospital. He has been in clinical practice since 1981, in which he primarily performs psychological assessments. He has continued his education by attending professional workshops specializing in forensic applications of psychology, which “touched on subjects that relate to evaluation of traumatic brain injuries.” Appellant’s App. 69. Dr. McCabe also testified that he has had patients referred to him by medical doctors. Specifically, two neurologists referred cases to him for “specific aspects of brain behavior relationship questions,” id. at 70, and other general practitioners referred cases to him for insight into the “relationship between the presenting psychological problems and . . . underlying medical issues,” id.

⁹ In his deposition, Dr. McCabe explained that Counseling Psychology was an applied field that involved “working with people who were not psychiatric patients, but rather kind of regular people who had some sort of problem and counseling dealt with that,” and that it involved “the assessment of a patient’s psychological well-being.” Appellant’s App. 235.

With the assistance of a video, Dr. McCabe testified extensively about the physiological aspects of the brain and how a closed head injury¹⁰ might occur from a rotational impact or whiplash motion. He explained that when the

head is forced either forward and backward or somehow side to side . . . the brain, which is the consistency maybe of jello or oatmeal, moves at a different pace than the hard shell of the skull. And as that kind of whiplash-kind of motion occurs, the brain tissues are dragged across those bony protuberances and that's the source of the difficulty in many closed head injuries.

Id. at 79. Dysfunction, he explained, may result from this rotational motion.

Dr. McCabe also thoroughly described the methodology he used to reach his conclusion that the accident caused Richmond's brain injury. He interviewed both Richmond and his wife, reviewed both Richmond's medical records and deposition, and conducted a series of tests. Dr. McCabe drew conclusions from each of the tests he performed on Richmond. From the Wechsler Adult Intelligence Scale-III, which he explained was a "widely used test, almost universal" and "very good from a scientific point of view," id. at 88, he noted a disparity between Richmond's verbal and performance tests that he attributed to "some sort of interference with his cognitive processing that [he called] kind of cognitive inefficiency," id. at 90 (emphasis omitted). From the Wechsler Memory Scale, "another widely used clinical memory test," id. at 90, Dr. McCabe also noted a pattern of discrepancy or inefficiency that led him to conclude that there were "difficulties . . . getting in the way of [Richmond's] smooth memory function," id. at 90. Lastly, from the Halstead Neuropsychological Test Battery, again "a very widely used battery," id. at 91, Dr. McCabe concluded that Richmond's impairment index suggested that he had "mild to moderate brain damage," id. at 91-92. Dr. McCabe summarized his results and conclusions as follows:

So we put all this information together and relate it to the facts of the injury and the manifestation in his life of these growing cognitive processing difficulties. And that's how I arrived at the hypothesis that I did; namely, that in the course of this rear-ending accident, he sustained what we saw in that video: diffuse axonal injury; that is to say, that kind of motion to the head caused damage to the connections between the cells of the brain through the axons. They were suf-

¹⁰ Dr. McCabe explained that a "closed head injury" is one where there is "no open wound to suggest that the head was significantly injured." Appellant's App. 77.

ficiently messed up to provide him with these processing problems that he has manifested – by the time I saw him two years later.

Id. at 92.

Over Bennett’s objection, Dr. McCabe then testified that it was his opinion that Richmond “experienced a traumatic brain injury in the accident.” Id. at 105. He explained that “[g]iven the absence of any of the symptoms of this condition prior to the accident, either in his report, the medical record, or the observations of his wife, it seems evident that the accident produced the brain injury.” Id. at 105-06. According to Dr. McCabe, Richmond’s experiencing “chronic headaches, a loss of cognitive efficiency, difficulties in information processing, and some adverse personality changes” appeared to be a result of his brain injury. Id. at 106.

B

The Court of Appeals concluded that Dr. McCabe was not qualified under Rule 702 to offer his opinion as to the cause of Richmond’s brain injury. Specifically, it held that a psychologist who is not a medical doctor but is otherwise qualified under Rule 702 to offer expert testimony as to the existence and evaluation of a brain injury is not qualified to offer his or her opinion as its cause without demonstrating some medical expertise in determining the etiology of brain injuries. Bennett, 932 N.E.2d at 709-10. Its basis for requiring medical expertise in etiology apparently stems from prior statements of that court that “questions of medical causation of a particular injury are questions of science generally dependent on the testimony of physicians and surgeons learned in such matters.” Id. at 709 (citing Hannan v. Pest Control Servs., Inc., 734 N.E.2d 674, 679 (Ind. Ct. App. 2000), trans. denied).¹¹ The reasoning behind these statements, as explained by the Court of Appeals in another recent case, is that “physicians are uniquely qualified to diagnose and treat disease.” K.D. v. Chambers, 951 N.E.2d 855, 861 (Ind. Ct. App. 2011) (citing Clarian Health Partners, Inc. v. Wagler, 925 N.E.2d 388, 396-97 (Ind. Ct. App.

¹¹ Hannan, in turn, cites Brown v. Terre Haute Regional Hospital, 537 N.E.2d 54, 61 (Ind. Ct. App. 1989), to support this proposition. Hannan, 734 N.E.2d at 679. We note that the relevant language in Brown addressed the issue of whether expert medical testimony was required in that case to prove medical causation or whether lay persons might deduce causation without the assistance of expert testimony. Brown, 537 N.E.2d at 61. In contrast, this case does not involve lay testimony.

2010), trans. denied, 940 N.E.2d 822 (Ind. 2010) (table)) (discussing and applying pertinent legal principles without reference to the present case in light of our granting transfer), trans. denied, ___ N.E.2d ___ (Ind. 2011) (table), disapproved on other grounds by Spangler v. Bechtel, 958 N.E.2d 458, 466 n.5 (Ind. 2011). As for our part, we recently let stand a trial court’s admonishment to the jury during trial and subsequent jury instruction that only a medical doctor is legally competent to offer an opinion on the medical causation of physical injuries. TRW Vehicle Safety Sys., 936 N.E.2d at 211 & n.3, 212 (holding the admonishment to be within the trial court’s discretion and the challenge to the instruction not available for appellate review).

We note here that Dr. McCabe’s testimony on causation relates to his opinion as to the existence and evaluation of a brain injury that he in fact was uniquely qualified to offer, especially considering his testimony that brain injuries such as Richmond’s often go undiagnosed by medical professionals for various reasons. See Bennett, 932 N.E.2d at 709-10 (noting that the evaluation of a brain injury was within Dr. McCabe’s field of expertise and that he had demonstrated his qualifications to opine that Richmond sustained a brain injury from an unknown cause). Moreover, the patterns of impairment that Dr. McCabe observed through his testing were those associated with a traumatic brain injury. Traumatic brain injuries occur in the course of closed head injuries,¹² and closed head injuries can occur in rear-ending accidents. Thus, the possible causes of Richmond’s brain injury were narrowed down by his testing (testing that both Bennett and the Court of Appeals would agree Dr. McCabe was qualified to perform).

In any event, we think that the Court of Appeals imposed more stringent requirements on Dr. McCabe than are required under Rule 702. Rule 702 requires that Dr. McCabe demonstrate his knowledge, skill, experience, training, or education in order to be qualified as an expert, and in fact, only one of these characteristics is necessary. See Kubsch v. State, 784 N.E.2d 905, 921 (Ind. 2003) (citing Creasy v. Rusk, 730 N.E.2d 659, 669 (Ind. 2000)). Even if we were to conclude that Dr. McCabe had not had any specific “education or training relevant to determining the etiology of brain injuries,” Bennett, 932 N.E.2d at 709, he clearly demonstrated his knowledge of how a brain injury might result from the whiplash motion experienced in a rear-

¹² Dr. McCabe testified in his deposition that traumatic brain injuries do not occur in the absence of some sort of closed head injury.

ending accident, how such a brain injury results in symptoms similar to those experienced by Richmond, and how psychological and neuropsychological testing reveals the relationship between that brain injury and behavior.¹³ He further testified to his experience in working with trained medical doctors on issues related to “brain behavior relationship questions” or the “relationship between the presenting psychological problems and . . . underlying medical issues.” Appellant’s App. 70. To the extent that Dr. McCabe (1) has had no real “education or training relevant to determining the etiology of brain injuries” or took continuing education courses that only “touched on subjects that relate to evaluation of traumatic brain injuries,” Bennett, 932 N.E.2d at 709-710 (citation omitted), (2) has worked with a limited number of neurologists on brain behavior relationship questions, id. at 710, (3) evaluated Richmond almost two-and-a-half years after the accident, or (4) did not have any baseline data for which to compare Richmond’s results, these matters go to the weight and credibility of his testimony, not to his qualification to give it.

Other jurisdictions analyzing this issue under various analogs to our Rule 702 have not required specific qualifications in determining the etiology of brain injuries before allowing psychologists or neuropsychologists to testify in this regard. They have allowed experts to testify as to the cause of a brain injury based on qualifications similar to Dr. McCabe’s. In Huntoon, the Supreme Court of Colorado held that a neuropsychologist was qualified to testify that a rear-ending accident caused the plaintiff’s brain injury. 969 P.2d at 685, 691. The witness had an “extensive educational background, including three degrees in psychology, master’s and doctoral degrees, and further study in neuropsychology including understudy with experienced neuropsychologists,” and he had explained “the way in which neuropsychological testing reveals the impact of an injurious event on an individual’s ability to carry out every day activities, and the manner in which neuropsychologists use the tests and other clinical data to diagnose brain injury as manifested by cognitive impairment.” Id. at 691. The Huntoon court concluded that the ex-

¹³ Specifically, Dr. McCabe explained in his deposition: “Traumatic brain injury characteristically affects certain kinds of cognitive functioning, not across the board. . . . because we’re not destroying the cortex. We’re destroying connections. Consequently, we look for particular kinds of inefficiency as suggestive of traumatic brain injury.” Appellee’s App. 238. “Other kinds of patterns,” Dr. McCabe continued, “would not suggest traumatic brain injury, but rather some other kind of – like a tumor or some other sort of brain injury.” Id. Dr. McCabe also testified at trial that he had rejected other possible causes of Richmond’s cognitive inefficiencies through his evaluation, including back injuries, notable life events, anxiety, and depression.

pert “had demonstrated the knowledge and experience necessary to render an opinion as a neuropsychologist, and that he did not exceed the scope of his expertise by addressing issues of causation.” Id. Similarly, in Hutchison, the Supreme Court of Iowa held that a neuropsychologist was qualified to testify that a rear-ending accident did not cause the plaintiff’s brain injury, but rather that her injuries were pre-existing. 514 N.W.2d at 884, 886. The witness had a “doctorate in clinical psychology . . . [and] extensive postdoctoral training and professional experience.” Id. at 888. He had opened a head trauma rehabilitation program and developed a head injury severity scale. Id.; see also id. at 887 (declining to adopt Pennsylvania’s approach requiring psychologist to establish that his methods expose the cause of the injury and not merely its existence). But cf. Davison, 2006 U.S. Dist. LEXIS 52162 at *23 (requiring specialized knowledge or experience in brain injuries, but then appearing to differentiate between expertise to diagnose brain injury and to state an opinion about its cause).

Lastly, Bennett argues that the proper qualifications to testify as to the cause of a brain injury are those of a “neuropsychologist,” and because Dr. McCabe has not claimed to be a neuropsychologist and has not presented any credentials identifying himself as a neuropsychologist, his qualifications are distinguishable from those psychologists that were qualified to testify to the medical cause of brain injuries in other cases. But even if we were to require under Rule 702 qualifications similar to those of a neuropsychologist to testify in this manner, our understanding of “neuropsychology,” see footnote 6, supra, as well as the description of that term in cases, leads us to conclude that Dr. McCabe’s practice was in fact related to neuropsychology even though he did not describe himself as a neuropsychologist. See Huntoon, 969 P.2d at 685 (providing that “neuropsychologists perform the ‘study of brain behavior relationships and use a battery of psychological and neuropsychological tests that are standardized in order to elicit observations of relevancy of various aspects of the brain in terms of cognitive and intellectual function’”); Cunningham, 921 P.2d at 1357 (explaining that neuropsychology focuses on the relationships between brain impairment and behavior of individuals due to head injury or brain disease).¹⁴ Nor does the fact that he lacks credentials as a neuropsychologist preclude a finding that he is qualified in this regard. Cf. Hutchison, 514 N.W.2d at 886 (reasoning that lack of board

¹⁴ In his response to a juror question, Dr. McCabe similarly described neuropsychology as “the study of the relationship between the brain and behavior.” Appellant’s App. 184.

certification in neuropsychology goes to weight of testimony, not admissibility); Cunningham, 921 P.2d at 1360 (holding that neuropsychologist who was not board certified still a qualified neuropsychologist).

We conclude that the trial court did not abuse its discretion in finding that Dr. McCabe was qualified to offer his opinion as to the cause of Richmond's brain injury.

C

Admissibility under Rule 702 also depends on the reliability of Dr. McCabe's causation testimony. In making this determination, "the trial court must make a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and whether that reasoning or methodology properly can be applied to the facts in issue." Shafer & Freeman Lakes Envtl. Conservation Corp. v. Stichnoth, 877 N.E.2d 475, 484 (Ind. Ct. App. 2007) (citation omitted), trans. denied. "[T]here is no specific 'test' or set of 'prongs' which must be considered in order to satisfy . . . Rule 702(b)." McGrew v. State, 682 N.E.2d 1289, 1292 (Ind. 1997). The proponent of the expert testimony bears the burden of establishing the reliability of the scientific principles on which it is based. Kubsch, 784 N.E.2d at 921 (citation omitted).

First, Bennett argues that the scientific basis of Dr. McCabe's testimony should have been examined through means of a Daubert hearing and that the trial court erred in not holding such a hearing.¹⁵ But we note that Bennett never requested that the trial court hold a Daubert hearing and never raised an objection in the trial court on this basis. Moreover, the substance of

¹⁵ A "Daubert hearing" refers to a hearing usually conducted before trial to determine whether proposed expert testimony meets the requirements of Rule 702. See Black's Law Dictionary 453 (9th ed. 2009) (providing definitions of "Daubert hearing" and "Daubert test"). Daubert refers to the U.S. Supreme Court's opinion in Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993), which outlined a non-exhaustive list of factors that might be considered when assessing the reliability of scientific evidence. Kubsch, 784 N.E.2d at 921. These factors include "whether the theory or technique can be and has been tested, whether the theory has been subjected to peer review and publication, whether there is a known or potential error rate, and whether the theory has been generally accepted within the relevant field of study." Id. (citation omitted). We most recently provided background on Rule 702 in relationship to Daubert in Turner v. State, 953 N.E.2d 1039, 1049-51 (Ind. 2011).

such a hearing was by and large served during the hearing on his pretrial motion to exclude, at which time Bennett offered and the trial court admitted Dr. McCabe's deposition testimony. Cf. TRW Vehicle Safety Sys., 936 N.E.2d at 212 (declining to find error in the absence of a formal Rule 702 inquiry which was not requested by either party and the substance of which was served in large part by an extended bench colloquy). Dr. McCabe testified in his deposition to his educational background, training, and experience; to his definition of traumatic brain injury; and to studies showing the relationship between vehicular accidents, their damaging effects on tissue within the brain, and how the damage to the brain sustained in vehicular accidents produces the symptoms associated with traumatic brain injury. In turn, Bennett pointed out that Dr. McCabe had no real medical training; that traumatic brain injury is not defined by the American Psychiatric Association; and that Dr. McCabe could not recall the names of the publications in which he had read about the studies involving vehicular accidents and brain damage. Dr. McCabe also testified in his deposition to the tests he performed on Richmond and to the methodology he used to opine that Richmond had suffered a brain injury in the rear-ending accident. Accordingly, the trial court in its pretrial order concluded that Richmond had made a "good case that McCabe's testimony could be based upon scientific principles," Appellant's App. 30, but it reserved the right to rule to the contrary at trial.¹⁶

We conclude that the trial court did not abuse its discretion in finding that Dr. McCabe's testimony was based on reliable scientific principles. Rule 702(b) "directs the trial court to consider the underlying reliability of the general principles involved in the subject matter of the tes-

¹⁶ The trial court went on to state in a footnote:

Plaintiffs should consider, however, that they may have trouble in convincing the Court that sound scientific principles exist to allow McCabe, a non-medical doctor, to "diagnose" whether Mr. Richmond sustained a traumatic brain injury as a result of the accident. This is a different question, however, from testifying that persons suffering from traumatic brain injuries exhibit symptoms similar to the ones he observed when examining Mr. Richmond. From the record before the Court, however, the Court will not exclude McCabe's testimony wholesale. The myriad of issues that McCabe might be asked to testify upon may very well include ones outside the bounds of reliable scientific principles upon which he is competent to testify. Conversely, McCabe is undoubtedly competent to testify on some issues. Whether these issues will be enough to convince the trier of fact to award Plaintiffs compensation for a "traumatic brain injury" is another question. The Court will not speculate as to each issue or adopt Defendant's wholesale approach of excluding McCabe as a witness at this time. To do otherwise would amount to "micro-managing" the Plaintiffs' case for them, which the Court will not do.

Appellant's App. 30 n.3.

timony, but it does not require the trial court to re-evaluate and micromanage each subsidiary element of an expert's testimony within the subject." Sears Roebuck, 742 N.E.2d at 461. As demonstrated in his testimony at trial, the general principles underlying Dr. McCabe's testimony – that rotational motion or whiplash can cause brain injuries and that brain injuries can be evaluated through the testing he performed – were scientifically valid. Indeed, Bennett does not really challenge the validity of these general principles but more so the specific science underlying Dr. McCabe's conclusion that Richmond experienced a traumatic brain injury in the accident. But we note that Dr. McCabe's methodologies in opining on the cause of Richmond's injury were similar to those employed by other qualified experts. Like Dr. McCabe, the neuropsychologist in Huntoon had administered tests that were "part of a standardized battery described as the most respected and widely documented in the neuropsychology profession" and had "prepared a far-reaching background and case history to use as a backdrop for his analysis of the test results" to reach his conclusion as to the cause of the plaintiff's brain injury. 969 P.2d at 691. Similarly, the neuropsychologist in Cunningham had performed "a battery of cognitive tests including intelligence tests, memory tests, tests for concentration and attention, [and] tests for verbal skills and for visual perceptual abilities" to reach her conclusion as to the cause of the plaintiff's brain injury. 921 P.2d at 1357

Related to the reliability of his testimony, the Court of Appeals concluded that even if Dr. McCabe were qualified to opine as to the cause of Richmond's brain injury, his testimony lacked probative value because he did not testify regarding the mechanics of the accident or describe the force or speed of the impact. Bennett, 932 N.E.2d at 711. We disagree. Dr. McCabe's opinion was based on the undisputed fact that a rear-ending accident occurred in this case. Cf. Clarke v. Sporre, 777 N.E.2d 1166, 1170-71 (Ind. Ct. App. 2002) (expert opinion that hypoxic event caused mental impairment was speculative because there was no factual basis that hypoxic event occurred). Richmond himself testified that his one-ton van, which was in a stopped position, was hit by Bennett's truck, which according to Bennett's testimony weighed 42,000 pounds; as a result, Richmond's van was propelled forward 300 feet. Dr. McCabe's testimony was unequivocal that whiplash motion such as that occurring in a rear-ending accident may cause brain injury and that such a brain injury may cause the symptoms experienced by Richmond. And, as discussed supra, Dr. McCabe employed reliable methodologies to reach his conclusion that Richmond sus-

tained a brain injury in the accident. Thus, we disagree with the Court of Appeals that Dr. McCabe's testimony was "nothing more than "subjective belief" and "unsupported speculation.""" Bennett, 932 N.E.2d at 711 (quoting Ind. Mich. Power Co. v. Runge, 717 N.E.2d 216, 235 (Ind. Ct. App. 1999)).

We conclude that the trial court did not abuse its discretion in finding that Dr. McCabe's testimony was based on reliable scientific principles that could be applied to the facts at issue.

Conclusion

Our review of the record, read in conjunction with the requirements of Rule 702, leads us to conclude that the trial court did not abuse its discretion in admitting Dr. McCabe's causation testimony. The trial court extensively and thoughtfully considered the admissibility of Dr. McCabe's testimony on three separate occasions during this litigation. Mindful that the trial court is afforded broad discretion in these matters, we decline to find any abuse of it. The judgment of the trial court is affirmed.

Shepard, C.J., and Dickson, Rucker, and David, JJ., concur.