

STATE OF WISCONSIN
COURT OF APPEALS
DISTRICT III
No. 2009AP2502-CR

STATE OF WISCONSIN,
Plaintiff-Appellant,
v.

QUENTIN J. LOUIS,
Defendant-Respondent.

ON APPEAL FROM AN ORDER VACATING A JUDGMENT OF
CONVICTION AND GRANTING A NEW TRIAL IN THE
INTEREST OF JUSTICE, ENTERED IN THE CIRCUIT COURT
FOR MARATHON COUNTY, HONORABLE VINCENT K.
HOWARD, PRESIDING

NON-PARTY BRIEF OF AMICI CURIAE

The INNOCENCE NETWORK and
the WISCONSIN INNOCENCE PROJECT at the UNIVERSITY OF
WISCONSIN LAW SCHOOL'S FRANK J. REMINGTON CENTER,
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TABLE OF CONTENTS

INTRODUCTION	1
I. The science underlying Louis’s conviction has evolved in significant ways that the jury never heard about.	2
A. The defense experts are legitimate.	2
B. Scientific research seriously challenges traditional SBS theory.	2
II. The circuit court properly exercised its interest-of-justice authority.....	7
III. The disputed confession is not dispositive.	10
CONCLUSION	12
CERTIFICATION AS TO FORM AND LENGTH	13

TABLE OF AUTHORITIES

CASES

<i>Garcia v. State</i> , 73 Wis.2d 651, 245 N.W.2d 654 (1976).....	9
<i>State v. Edmunds</i> , 2008 WI App 33, 308 Wis.2d 374, 746 N.W.2d 590.....	1
<i>State v. Harp</i> , 161 Wis.2d 773, 469 N.W.2d 210 (Ct. App. 1991)	10
<i>State v. Henley</i> , 2010 WI 97.....	10
<i>State v. Hicks</i> , 202 Wis. 2d 150, 549 N.W.2d 435 (1996).....	10
<i>State v. Maloney</i> , 2006 WI 15, 288 Wis.2d 551, 709 N.W.2d 436	9

<i>State v. Neuser</i> , 191 Wis.2d 131, 528 N.W.2d 49 (Ct. App. 1995).....	9
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WISCONSIN STATUTES

805.15.....	10
805.15(1).....	10
805.18(1).....	10

OTHER AUTHORITIES

A.C. Duhaime et al., <i>The shaken baby syndrome: a clinical, pathological, and biomechanical study</i> , 66 J. Neurosurg. 409 (1987)	5
Andrew Sirotnak, <i>Medical Disorders that Mimic Abusive Head Trauma</i> , in <i>Abusive Head Trauma in Infants and Children: A Medical, Legal, and Forensic Reference</i> 191 (Frasier et al. eds., 2006)	6
Deborah Tuerkheimer, <i>Anatomy of a Misdiagnosis</i> , N.Y. Times, Sept. 21, 2010, at A31, available at http://www.nytimes.com/2010/09/21/opinion/21tuerkheimer.html?_r=1&scp=1&sq=Tuerkheimer&st=cse	1
Deobrah Tuerkheimer, <i>The Next Innocence Project: Shaken Baby Syndrome and the Criminal Courts</i> , 87 Wash. U. L. Rev. 1 (2009)	4, 5, 8
Drizin & Leo, <i>The Problem of False Confessions in the Post-DNA World</i> , 82 N.C. L. Rev. 891 (2004).....	11
F.A. Bandak, <i>Shaken baby syndrome: a biomechanics analysis of injury mechanisms</i> , 151 Forensic Sci. Int. 71 (2005).....	5

Gregg T. Leuder et al., <i>Perimacular Retinal Folds Simulating Nonaccidental Injury in an Infant</i> , 124 Archives Ophthalmology 1782 (2006)	6
Jan E. Leestma, “ <i>Shaken Baby Syndrome</i> ”: <i>Do Confessions by Alleged Perpetrators Validate the Concept?</i> , 11 J. of Amer. Phys. & Surgeons 14 (2006).....	3, 4, 6
John Plunkett, <i>Fatal head injuries caused by short-distance falls</i> , 22 Am. J. Forensic Med. Pathol. 1 (2001).....	2
Mark Donohoe, <i>Evidence-Based Medicine in Shaken Baby Syndrome; Part I: Literature Review, 1966-1998</i> , 24 Am. J. Forens. Med. & Pathol. 239 (2003)	3, 4
MaryAnn Gilliland, <i>Interval Duration Between Injury and Severe Symptoms in Nonaccidental Head Trauma in Infants and Young Children</i> , 43 J. Forensic Sci. 723 (1998)	6
Ofshe & Leo, <i>The Decision to Confess Falsely: Rational Choice and Irrational Action</i> , 74 Denv. U. L. Rev. 979 (1997).....	11
P.E. Lantz, <i>Perimacular Retinal Folds from Childhood Head Trauma</i> , 328 Brit. Med. J. 754 (2004)	6
Patrick Barnes & Michael Krasnokutsky, <i>Imaging of the Central Nervous System in Suspected or Alleged Nonaccidental Injury, Including the Mimics</i> , 18 Top. Magn. Reson. Imaging 53 (2007)	6
Robert Huntington, <i>Letter, Symptoms Following Head Injury</i> , 23 Am. J. Forensic Med. & Pathology 105 (2002).....	7
Ronald Uscinski, <i>Shaken Baby Syndrome: An Odyssey</i> , 46 Neurol. Med. Chir. 57 (2006)	3

W. Goldsmith & J. Plunkett, *A biomechanical analysis of the causes of traumatic brain injury in infants and children*, 25 Am. J. Forensic Med. Pathol. 199 (2005)..... 5

INTRODUCTION

Scientific knowledge advances inexorably. The path forward is not always smooth, as old dogmas brace against new understandings. Proponents of orthodoxies often resist new knowledge with cries of heresy and attacks on the bona fides or character of the new thinkers. The history of science is replete with examples of such struggles.

Such is the nature of the new and real debate about shaken baby syndrome (SBS)—a debate that the circuit court recognized the jury in this case never had a chance to hear and evaluate. But the new research is real, and the debate in the medical community is legitimate, as the circuit court found and as this court has already recognized. *State v. Edmunds*, 2008 WI App 33, 308 Wis.2d 374, 746 N.W.2d 590.

The State's attempts to marginalize the emerging new science run headlong not only into *Edmunds*, but also into an increasing volume of medical research, a robust community of medical experts, and a growing collection of government acknowledgments. See Deborah Tuerkheimer, *Anatomy of a Misdiagnosis*, N.Y. Times, Sept. 21, 2010, at A31, available at http://www.nytimes.com/2010/09/21/opinion/21tuerkheimer.html?_r=1&scp=1&sq=Tuerkheimer&st=cse. In a case such as this, *where every element of the crime at issue was established almost entirely by medical opinions based upon challenged science*, and where the jury heard not one word about the competing new scientific evidence, the circuit court was right to conclude that the real controversy was not fully tried.

I. The science underlying Louis’s conviction has evolved in significant ways that the jury never heard about.

A. The defense experts are legitimate.

The State disparages defense experts Drs. Barnes and Plunkett because they now testify primarily “for the defense in SBS cases,” and because *some* of Dr. Plunkett’s contributions to the field have not been peer-reviewed. State’s Brief at 18, 21.

The State omits that Dr. Barnes is a leading expert in pediatric neuroradiology, director of pediatric neuroradiology at Stanford and formerly at Harvard, and the author of definitive textbooks and articles in the field, who *previously testified as a State’s expert in SBS cases* such as the infamous Boston nanny case involving Louise Woodward (97:23-26, 29, 36-37, 40-41). He now testifies primarily for the defense in these cases because he has re-examined the basis for SBS theory and has found it deficient under prevailing evidence-based medicine standards and emergent research (97:30-36).

The State omits that Dr. Plunkett’s peer-reviewed publications include his seminal work establishing that short-distance falls, including accidental falls, can cause the “triad” of symptoms that previously would have been automatically diagnosed as SBS. John Plunkett, *Fatal head injuries caused by short-distance falls*, 22 Am. J. Forensic Med. Pathol. 1 (2001).

B. Scientific research seriously challenges traditional SBS theory.

SBS theory first emerged from the work of Dr. John Caffey in the 1940s, as nothing more than a theory—

unsupported by any real research, but nonetheless accepted and unquestioned by practitioners. See Jan E. Leestma, "Shaken Baby Syndrome": Do Confessions by Alleged Perpetrators Validate the Concept?, 11 J. of Amer. Phys. & Surgeons 14 (2006). In 1968, researchers found that rear-end vehicle collisions could lead to whiplash and brain injuries in certain test animals. This study did not address whether human beings can shake infants with enough force to cause brain injury; nevertheless, for decades the study was accepted by the medical community as the primary empirical support for SBS. Ronald Uscinski, *Shaken Baby Syndrome: An Odyssey*, 46 Neurol. Med. Chir. 57 (2006).

In the late 1990s, medical scientists began examining the scientific foundation for the theory, and found it wanting under "evidence-based" medicine standards (97:33, 35, 179-80); Mark Donohoe, *Evidence-Based Medicine in Shaken Baby Syndrome; Part I: Literature Review, 1966-1998*, 24 Am. J. Forens. Med. & Pathol. 239 (2003). Evidence-based medicine refers to the movement "toward basing medical practice and opinions on the best available medical and scientific evidence." *Id.* at 239. Applying Quality of Evidence Ratings "defined worldwide as an appropriate scale for review of quality of evidence," Donohoe found that adequate research standards had "yet to be achieved in even a single study in the field of SBS." *Id.* at 241.

The ... evidence for SBS appears analogous to an inverted pyramid, with a small database (most of it poor-quality original research, retrospective in nature, and without appropriate control groups) spreading to a broad body of somewhat divergent opinions. One may need reminding that repeated opinions based on poor-quality data cannot improve the quality of evidence.

Id. Much of the previous research was marred by a logical flaw—circular reasoning—“of selecting cases [as SBS cases] by the presence of the very clinical findings and test results they seek to validate as diagnostic.” *Id.* at 239; (97:52). “Without published and replicated studies of [the proper] type, the commonly held opinion that the finding of [subdural hematoma] and [retinal hemorrhage] in an infant was strong evidence of SBS was unsustainable, at least from the medical literature.” *Id.* at 241.

The State challenges the defense experts’ reliance on evidence-based medical research because they refuse to consider Louis’s disputed confession. State’s Brief at 20. The State badly misunderstands the nature of evidence-based medicine. In the scientific community, an “evidence base” has a specific meaning—it requires that research “meet the test of proper *scientific* methodology as well as biostatistical significance” (97:33 (emphasis added)). Disputed confessions might be evidence in the legal world, but they are not scientific evidence (97:106-07). *See* Leestma, *supra*, at 14 (“To base an injury causation study on [an admission or confession] does not meet the accepted standards of analysis or interpretation because of insoluble issues of bias.”). A proper evidence-based scientific analysis would *not* consider Louis’s disputed confession (97:54).

Professor Deborah Tuerkheimer, a former prosecutor who has studied the issue extensively, has observed a rift in the medical community regarding SBS as research progresses, and a gradual change in the way SBS is characterized, even among traditionalists. *The Next Innocence Project: Shaken Baby Syndrome and the Criminal Courts*, 87 Wash. U. L. Rev. 1, 6 (2009). Recent research has shed light on whether shaking alone can produce

injury, and whether other conditions can produce SBS-like symptoms.

Most research on the mechanism of injury in SBS is conducted using animals and biomechanical and computer modeling (97:51, 108). Biomechanical research consistently concludes that shaking alone, without impact, cannot generate sufficient force to cause the injuries attributed to SBS, at least not without also causing extensive neck and cervical spine injuries (97:44, 55, 170-73). See, e.g., A.C. Duhaime et al., *The shaken baby syndrome: a clinical, pathological, and biomechanical study*, 66 J. Neurosurg. 409 (1987) (shaking alone is unlikely to cause SBS in an otherwise normal baby); F.A. Bandak, *Shaken baby syndrome: a biomechanics analysis of injury mechanisms*, 151 Forensic Sci. Int. 71 (2005) (an infant head subjected to the force required to produce SBS-associated symptoms would very likely have spinal injury); W. Goldsmith & J. Plunkett, *A biomechanical analysis of the causes of traumatic brain injury in infants and children*, 25 Am. J. Forensic Med. Pathol. 199 (2005) (head accelerations generated by manual shaking are below the thresholds for traumatic brain injury, and even concussion).

There is now general consensus that the “triad” of symptoms is not exclusively diagnostic of SBS. As Professor Tuerkheimer puts it, “As a categorical matter, the science of SBS can no longer support a finding of proof beyond a reasonable doubt in triad-only cases....” Tuerkheimer, *supra*, at 10. Research has established multiple alternative causes of the triad—“mimics” of child abuse. Drs. Barnes and Plunkett testified to many of those alternative causes (97:10-18, 32, 46-48). See Patrick Barnes & Michael Krasnokutsky, *Imaging of the Central Nervous System in Suspected or Alleged Nonaccidental*

Injury, Including the Mimics, 18 *Top. Magn. Reson. Imaging* 53, 65-70 (2007); Andrew Sirotnak, *Medical Disorders that Mimic Abusive Head Trauma*, in *Abusive Head Trauma in Infants and Children: A Medical, Legal, and Forensic Reference* 191 (Frasier et al. eds., 2006).

Retinal hemorrhages (and retinal folds and retinoschisis), for example, were once believed to be pathognomonic of shaking. But no more. Confirmed case studies and research now establish that these eye injuries can be caused by multiple mechanisms. See P.E. Lantz, *Perimacular Retinal Folds from Childhood Head Trauma*, 328 *Brit. Med. J.* 754 (2004); Gregg T. Leuder et al., *Perimacular Retinal Folds Simulating Nonaccidental Injury in an Infant*, 124 *Archives Ophthalmology* 1782 (2006).

Despite the State's claims about the impossibility of a lucid interval, significant research now establishes that children can experience prolonged periods of lucidity between injury and collapse, so it is no longer possible to determine the timing of an injury (97:57). See, e.g., MaryAnn Gilliland, *Interval Duration Between Injury and Severe Symptoms in Nonaccidental Head Trauma in Infants and Young Children*, 43 *J. Forensic Sci.* 723 (1998) (finding lucid interval of more than 72 hours in some alleged SBS cases, with a lucid interval of greater than 24 hours in 25% of cases, and of less than 24 hours in 71.9%); Jan Leestma, *Case analysis of brain injured, admittedly shaken infants*, 26 *Am. J. Forensic Med. Pathol.* 199 (2005) (finding immediate onset of symptoms to be infrequent in "confessed" shaking cases). Indeed, Dr. Huntington—a State's witness in this case—has published an account of a case he handled in which a child experienced a confirmed lucid interval, while under medical supervision, of at least 16 hours. Robert Huntington, *Letter, Symptoms Following*

Head Injury, 23 Am. J. Forensic Med. & Pathology 105 (2002).

Nonetheless, the State insists that the “triad” is alone symptomatic of shaking an infant with or without impact, “at least in most cases.” State’s Brief at 8. The State also continues to insist that there is no possibility that the child experienced a “lucid interval”—so any abuse had to have been inflicted while Louis had custody of the child.

But those matters are at the core of the fierce and legitimate debate in the medical community that the circuit court held the jury should have heard about. The State may disagree with it, but the circuit court was well within its discretion to determine that a *jury*, rather than the State, should decide whether the conflicting medical science might create reasonable doubt.

II. The circuit court properly exercised its interest-of-justice authority.

The State argues that the circuit court “erred as a matter of law” in ordering a new trial “based only on new expert opinion testimony that questions, but does not discredit” or “disprove” the State’s experts’ claims. State’s Brief at 5, 26. Given the onerous burden the law imposes on an appellant to show that a circuit court exercised its discretion erroneously, it is understandable that the State wants to reframe this as a question of law. There was no legal error here, however, because the law does not require complete “discrediting” or “disproving” of the State’s case before a court may grant a new trial; it requires only that the real controversy was not fully tried. Moreover, it is not clear what would constitute “disproving” the State’s experts, in the State’s view. If accepted by the jury, the defense experts would indeed

“discredit” or “disprove” the State’s experts. Whether the defense witnesses did so is a question for the jury, not the State or court. That is the purpose of the new trial.

The State’s repeated claim that the defense experts acted as “super jurors” is puzzling. The State seems to suggest that the experts’ unwillingness to offer opinions based upon the non-scientific evidence in the case—the purported confession—somehow makes them “super jurors” who usurped the role of the jury. But the experts’ declination to assess the “confession” evidence showed exactly the opposite—they *deferred* to the jury to consider that evidence, precisely because assessing it was not within their expertise (97:106-07).

The State argues that, “[i]f a new trial were awarded any time a litigant found a new expert with a different viewpoint than the trial experts, few convictions and few civil verdicts would ever be ‘final.’” State’s Brief at 26. But the circuit court’s ruling has no such dramatic import. No one suggests that any time a litigant finds a new expert a conviction will be overturned. Rather, all that the circuit court held was that, in the extreme circumstances of a case like this, where the conviction rested almost entirely on a medical diagnosis, where recent research challenges the scientific foundations of that medical diagnosis, and where the jury never heard a word about the new research, *then* a new trial is warranted because the real controversy was not fully tried. Most cases—criminal or civil—do not have such stark circumstances.

As Professor Tuerkheimer has written, SBS is as close as it gets to “a medical diagnosis of murder.” Tuerkheimer, *supra*, at 5. When convictions turn on such a diagnosis, changes in the underlying science do warrant,

indeed demand, re-examination in the courts to ensure factfinders have all of the relevant facts about the validity of that diagnosis.

The State argues that, under *State v. Maloney*, “[t]his court’s power of discretionary reversal does not allow a defendant to obtain a new trial in an attempt to present a different defense theory years after the one presented by competent counsel failed to persuade the jury.” 2006 WI 15, 288 Wis.2d 551, ¶37, 709 N.W.2d 436. But that is not this case. Here, the defense at trial was that Louis did not shake Madelyn to death as stated in his disputed confession, and that Madelyn could have been injured by someone else and experienced a lucid interval afterward. This is the same defense Louis now advances. Unfortunately, trial counsel tried to present that defense without any medical evidence, when abundant medical evidence indeed existed. This is not *Maloney*.

The State is also wrong when it contends that Louis must prove that “the jury was *erroneously* not given the opportunity to hear important testimony....” State’s Brief at 33. While such error can be grounds for discretionary reversal, it is not a prerequisite. To the contrary, the cases establish that all that matters is that the real controversy was not fully tried, for whatever reason. *See, e.g., Garcia v. State*, 73 Wis.2d 651, 654, 245 N.W.2d 654 (1976) (new trial granted where defendant deliberately chose not to present key exculpatory evidence); *State v. Neuser*, 191 Wis.2d 131, 528 N.W.2d 49 (Ct. App. 1995) (new trial granted because prosecutor made improper argument to jury).

The State also gets the law wrong when it asserts, without authority: “The circuit courts do not, however, share the authority of the appellate courts to reverse

without a showing of a reasonable probability of a different outcome.” State’s Brief at 35. The State claims that §805.18(1) requires the court to disregard any errors “which shall not affect the substantial rights of the adverse party.” *Id.*

The State’s argument is wrong for two reasons. First, it is belied by abundant caselaw establishing that circuit courts do have the authority to reverse without a showing of a reasonable probability of a different outcome. See *State v. Harp*, 161 Wis.2d 773, 779, 469 N.W.2d 210 (Ct. App. 1991). The State overlooks that, under the interest-of-justice authority, “the court is not confined to apply the mechanistic formula ... which required it to find a substantial probability of a different result on retrial.” *State v. Hicks*, 202 Wis. 2d 150, 160, 549 N.W.2d 435 (1996). The State’s proposed rule—reintroducing that mechanistic rule—is irreconcilable with the court’s broad interest-of-justice discretion.

Second, recently, the Wisconsin Supreme Court established that Chapter 805 does not govern circuit court discretionary-reversal authority in criminal cases. In *State v. Henley*, 2010 WI 97, the Court held that §805.15(1) is not the source of the circuit court’s interest-of-justice authority; §805.15 and its attendant provisions apply only in civil cases. The court held that the parties “should not be looking to the civil statutes for guidance regarding ... postconviction options.” *Id.* at ¶44.

III. The disputed confession is not dispositive.

The State puts considerable weight on the disputed confession in this case, while ignoring entirely the troubling circumstances under which the confession was extracted from Louis, and the well-established reality that

false confessions are a leading contributor to wrongful convictions.

It may seem unusual that someone would confess to a crime he did not commit. This common perception is typified by Detective Lechleitner's testimony that "in his experience he has never interviewed a parent who confessed to killing his or her own child if they were in fact not responsible (91:17)." State's Brief at 13, n.4.

In fact, people confess to crimes they did not commit with surprising regularity, for a variety of reasons relevant here, including the age of the defendant and the claims of incriminating evidence by the police during interrogation.

False confessions occur much more frequently with the young. Nearly two-thirds of the false confessors in one study were under 25. Drizin & Leo, *The Problem of False Confessions in the Post-DNA World*, 82 N.C. L. Rev. 891, 945-46 (2004). At the time of his confession, Louis was 23, and he had a very limited education (87:279; 93:9-12).

Police commonly employ interrogation tactics that elicit confessions "by leading [suspects] to believe that the evidence against them is overwhelming." Ofshe & Leo, *The Decision to Confess Falsely: Rational Choice and Irrational Action*, 74 Denv. U. L. Rev. 979, 985-86 (1997) (citing psychological studies). Here, police confronted Louis with what appeared to be conclusive medical proof that his infant daughter had been shaken to death and that Louis was responsible (86:72-73). The interrogation was exceptionally aggressive (84:17-19), and it occurred at a time when Louis was actively grieving the loss of his child.

The trial court ruled the confession was admissible but conceded that the issue was difficult to decide (86:76-77; R-Supp. App. 1:1-15). Such a confession should not carry the weight that the State places on it, if it carries any weight at all.

CONCLUSION

This court should affirm the circuit court's discretionary decision.

Dated this 27th day of September, 2010.

Respectfully submitted,

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CERTIFICATION AS TO FORM AND LENGTH

I hereby certify that this brief conforms to the rules contained in s. 809.19(8)(b) and (c) for a brief and appendix produced with a proportional serif font. The length of the brief is 2,997 words.

Keith A. Findley