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APPENDIX A

Court of Appeals Opinion, dated May 23, 2019

STATE OF MICHIGAN
COURT OF APPEALS

PEOPLE OF THE STATE OF MICHIGAN,

Plaintiff-Appellee,

v

TERRY LEE CEASOR,

Defendant-Appellant.

UNPUBLISHED

May 23, 2019

No. 338431

St. Clair Circuit Court

LC No. 05-000220-FH

Before: REDFORD, P.J., and MARKEY and K. F. KELLY, JJ.

PER CURIAM.

From an order directing this Court to grant defendant a “new direct appeal” entered by the federal district court in defendant’s habeas proceeding, defendant, Terry Lee Ceasor, seeks review of his conviction of first-degree child abuse, MCL 750.136b(2), for which he was sentenced to serve 2 to 15 years’ imprisonment. Presently before this Court is a claim that trial counsel provided ineffective assistance by failing to either obtain public funding to hire an expert that would have supported his theory of the case, or alternatively, by failing to find an expert willing to provide services pro bono. For the reasons stated below, we affirm.

I. PROCEDURAL HISTORY

Following defendant’s 2006 conviction, he appealed and among other issues asserted that his retained trial counsel, Kenneth Lord, provided ineffective assistance by failing to obtain the testimony of an expert who could have challenged the prosecutor’s expert, Dr. Holly Gilmer-Hill, regarding whether the victim’s injuries were the result of intentional abuse as opposed to an accidental fall from a short distance. Noting that defendant had not sought an evidentiary hearing¹ to establish a factual record to support his claim, this Court concluded from the available record that defendant’s claim failed. *People v Ceasor*, unpublished per curiam opinion

¹ *People v Ginther*, 390 Mich 436; 212 NW2d 922 (1973).

of the Court of Appeals, issued July 12, 2007 (Docket No. 268150). Our Supreme Court denied defendant's application for leave to appeal. *People v Ceasor*, 480 Mich 926 (2007).

Defendant sought a writ of habeas corpus in the federal district court in 2008. That proceeding spanned nearly a decade. The court held the habeas petition in abeyance while defendant sought relief under Subchapter 6.500 of the Michigan Court Rules. After that failed,² defendant returned to the federal district court which initially denied relief but the Sixth Circuit Court of Appeals reversed in 2016. *Ceasor v Ocwieja*, 655 Fed Appx 263 (CA 6, 2016). In a lengthy decision, the court concluded that defendant's appellate counsel's performance was deficient because he (1) did not file a separate motion seeking a remand to the trial court in defendant's direct appeal, (2) did not provide an affidavit or offer of proof in support of such a motion as is required by MCR 7.211(C)(1)(a), and (3) stated in his appellate brief that the question of trial counsel's effectiveness could be decided on the existing record. *Id.* at 279-282. The Sixth Circuit remanded the matter to the federal district court with directions that it hold an evidentiary hearing and decide whether appellate counsel's failures caused defendant prejudice. *Id.* at 290. The Sixth Circuit directed the district court that if it found prejudice it must conditionally grant the writ of habeas corpus "to allow the state courts to consider a new appeal or a renewed request for a *Ginther* hearing" *Id.* at 289-290. If the district court found no prejudice, then it could deny further relief. *Id.* at 290.

On remand to the federal district court, the parties obviated the need for an evidentiary hearing by entering a stipulated order stating that "appellate counsel's deficient performance prejudiced Petitioner because appellate counsel failed to litigate in state court a claim of ineffective assistance of trial counsel that was reasonably likely to succeed." The court "made no finding on whether the underlying claim of ineffective assistance of trial counsel [would] ultimately succeed." The order directed this Court to, "within 60 days, grant the Petitioner a new direct appeal of right."

This Court duly opened the present claim of appeal on May 19, 2017. Defendant then filed a motion for a new trial in the trial court pursuant to MCR 7.208(B)(1). The trial court held an evidentiary hearing and denied the motion, concluding that Lord's representation was not objectively deficient. Defendant now argues that the trial court erred and that Lord provided ineffective assistance for failing to seek public funds to hire an expert witness under MCL 775.15, or alternatively, by failing to seek the assistance of an expert who would have provided services pro bono. We disagree with the defendant. We affirm defendant's conviction and sentence.

² See *People v Ceasor*, unpublished order of the Court of Appeals, entered October 4, 2011 (Docket No. 304703) (denying leave to appeal "for failure to meet the burden of establishing entitlement to relief under MCR 6.508(D)."), and *People v Ceasor*, 491 Mich 908 (2012) (denying leave to appeal for the same reason).

II. ANALYSIS

A. STANDARD OF REVIEW

A claim of ineffective assistance of counsel presents a mixed question of fact and constitutional law. *People v Carll*, 322 Mich App 690, 702; 915 NW2d 387 (2018). The trial court's factual findings are reviewed for clear error, while the ultimate constitutional issue is reviewed de novo. *People v Swain*, 288 Mich App 609, 643; 794 NW2d 92 (2010).

B. BACKGROUND

Defendant's convictions arose out of head injuries sustained by BG, an approximately 17-month-old child on October 3, 2004. On this day, while BG was in the sole care of defendant, BG's mother's boyfriend at the time, BG suffered injuries to his head serious enough to cause him to lose consciousness and require immediate emergency medical attention.

At trial, the court qualified Dr. Gilmer-Hill, as the prosecution's expert in shaken baby syndrome (SBS). She testified that BG's injuries resulted from intentional abuse and would not be consistent with an accidental fall from a short distance. Defendant testified that the child apparently fell during his absence from the room. Defendant presented no expert testimony to contradict Dr. Gilmer-Hill. The jury deliberated for an extended period but eventually convicted defendant.

The record reflects that before defendant's trial, Lord consulted with Dr. Faris Bandak who had a background in engineering. Dr. Bandak reviewed materials sent to him by Lord, and was prepared to testify that the victim's injuries could have occurred as defendant stated. Lord consulted with defendant regarding the importance of Dr. Bandak's testimony. Defendant assured Lord that he would obtain funds to pay Dr. Bandak's fees for trial testimony, but later just before trial informed Lord that he lacked the funds necessary to pay Dr. Bandak's fee, and as a result, defendant went to trial without an expert to support his theory.

Some understanding of the history of SBS, or the now-preferred term, abusive head trauma (AHT), helps to put this matter in context. The debate over SBS/AHT diagnoses has a lengthy history, with experts still coming to differing conclusions regarding whether injuries, such as those sustained by the victim in this case, are unique to intentional abuse. See *Sissoko v State*, 236 Md App 676, 717-725; 182 A3d 874 (2018). As the Maryland Court of Appeals explained in *Sissoko*, "In the latter decades of the 20th century, it became widely accepted in the involved medical communities that shaking was the likely mechanism of brain injury when infants and young children presented with subdural hematomas, retinal hemorrhages, and brain swelling, but without external evidence of trauma or a reported history of a significant traumatic event." *Id.* at 718-719. But "[t]here were some in the biomechanical scientific community who disputed that shaking could produce forces sufficient to cause the injuries seen in shaken baby syndrome cases[.]" *Id.* at 719. These studies were not without their critics. "When scientists altered the models . . . they found that shaking *does* exceed injury thresholds, to the extent those thresholds can be calculated with any precision." *Id.* at 719 n 33. But there were some who "began to consider whether impact on a soft surface, independent of or in combination with shaking, also could be a mechanism for some of the intracranial findings in abuse cases." *Id.* at

720. “It remains the prevailing view within the relevant medical communities that there are some internal findings that are highly correlated with abusive head trauma, even in the absence of external findings; and when those internal findings are coupled with an inconsistent clinical history or one that is inadequate to explain them, and cannot be explained medically, a diagnosis of abusive head trauma is supported.” *Id.* at 722.

The main controversy over abusive head trauma involves a minority of physicians and other scientists who posit that changes in the understanding of the biomechanics of shaking, coupled with evidence that the confluence of subdural hematomas, retinal hemorrhages, and brain swelling is not unique to abusive head trauma, make it impossible to reliably conclude that any particular child’s injuries or death were caused by inflicted (non-accidental) trauma, as opposed to accidental trauma or medical causes, such as clotting disorders. [*Id.* at 725.]

The United States Supreme Court has explained that in the late 1990s and early 2000s, doubt “increased in the medical community over whether infants can be fatally injured through shaking alone.” *Cavazos v Smith*, 565 US 1, 13; 132 S Ct 2; 181 L Ed 2d 311 (2011) (quotation marks and citation omitted). The United States Supreme Court referenced Dr. Bandak’s published 2005 study in which he wrote, “ ‘Head acceleration and velocity levels commonly reported for SBS generate forces that are far too great for the infant neck to withstand injury [A]n SBS diagnosis in an infant . . . without cervical spine or brain stem injury is questionable and other causes of the intracerebral injury must be considered.’ ” *Id.*, quoting Bandak, *Shaken Baby Syndrome: A Biomechanical Analysis of Injury Mechanisms*, 151 *Forensic Sci Int*’1 71, 78 (2005). The Supreme Court noted that several other studies and articles written from 2003 to 2008 concluded that one could not assume that certain types of head injuries were solely indicative of child abuse. *Cavazos*, 565 US at 13-14 (collecting articles).

In this case, Lord contacted Dr. Bandak, whose opinions regarding SBS/AHT supported defendant’s defense theory. Lord explained that at the time it was difficult to even locate such an expert and Dr. Bandak’s position and research on the topic constituted “cutting-edge technology.” Lord could find no other experts willing to challenge the prosecution’s medical expert. Lord negotiated with Dr. Bandak regarding the rate for his services. Lord consulted with defendant, who repeatedly told Lord that he would find the money to secure Dr. Bandak’s testimony at trial. Lord obtained multiple adjournments of trial all based on the representation that defendant needed the time to secure funds to pay Dr. Bandak. Lord testified at the evidentiary hearing that he suspended defendant’s obligation to pay Lord’s own fees so that defendant could save for the cost of hiring Dr. Bandak, and Lord paid Dr. Bandak’s initial consultation fee out of the retainer defendant paid to Lord. Defendant continually represented to Lord that he would secure the money, either by saving his own money and perhaps selling a vehicle, or if all else failed, by borrowing the money from his mother.

Two weeks before the trial date, however, defendant informed Lord that he could not obtain the money himself and that he would not ask his mother for any more financial assistance. A frustrated Lord tried to convince defendant to ask his mother for help, but defendant refused. Instead, defendant told Lord that an expert was not necessary because defendant would be a good witness and the jury would believe him. At that point, Lord prepared for trial with what he had.

Lord discussed with defendant how to present himself to the jury and Lord came up with a strategy aimed at gaining the jury's sympathy, explaining to the jury that defendant, a hard-working individual, lacked the financial resources to afford an expert to combat the expert put forward by the prosecution. Lord also used the knowledge that he had gained from his discussions with Dr. Bandak to cross-examine the prosecution's expert. Lord's strategy clearly had an effect. The jury deliberated for days and reported at one point that it could not reach a unanimous verdict. Ultimately, however, the jury convicted defendant.

Defendant argues that Lord provided him ineffective assistance primarily on the ground that Lord should have sought financial assistance from the court under MCL 775.15. Defendant posits that Lord should have done so at the outset of the case or later when defendant finally informed Lord that he lacked the financial ability to pay Dr. Bandak's fees. Alternatively, defendant argues that Lord should have looked for and obtained the services of another expert who would have provided expert services for free.

On appeal, defendant bears the burden of establishing that defense counsel provided ineffective assistance by showing that "(1) counsel's performance fell below an objective standard of reasonableness and (2) but for counsel's deficient performance, there is a reasonable probability that the outcome would have been different." *People v Trakhtenberg*, 493 Mich 38, 51; 826 NW2d 136 (2012). "A reasonable probability is a probability sufficient to undermine confidence in the outcome." *People v Carbin*, 463 Mich 590, 600; 623 NW2d 884 (2001) (quotation marks and citation omitted). Defendant must overcome a strong presumption that defense counsel provided effective assistance. *People v Seals*, 285 Mich App 1, 17; 776 NW2d 314 (2009). Further, defendant "has the burden of establishing the factual predicate for his claim of ineffective assistance of counsel." *People v Hoag*, 460 Mich 1, 6; 594 NW2d 57 (1999).

Whether Lord's performance fell below an objective standard of reasonableness is measured by examining if his conduct met prevailing professional norms "necessarily linked to the practice and expectations of the legal community . . ." *Padilla v Kentucky*, 559 US 356, 366; 130 S Ct 1473; 176 L Ed 2d 284 (2010) (citation omitted). "[D]efendant must overcome a strong presumption that counsel's performance was born from a sound trial strategy." *Trakhtenberg*, 493 Mich at 52. "This Court does not second-guess counsel on matters of trial strategy, nor does it assess counsel's competence with the benefit of hindsight." *People v Russell*, 297 Mich App 707, 716; 825 NW2d 623 (2012) (citation omitted). "[T]he failure to call witnesses only constitutes ineffective assistance of counsel if it deprives the defendant of a substantial defense." *Id.* An isolated error by counsel may demonstrate that his or her performance was objectively unreasonable if that error is sufficiently egregious. *Harrington v Richter*, 562 US 86, 111; 131 S Ct 770; 178 L Ed 2d 624 (2011). But "it is difficult to establish ineffective assistance when counsel's overall performance indicates active and capable advocacy." *Id.*

The parties acknowledge that there is recent authority holding that the failure to call an expert witness who is willing to assist the defendant in an SBS/AHT case can amount to deficient performance. In *People v Ackley*, 497 Mich 381, 384; 870 NW2d 858 (2015), the prosecutor intended to rely on several experts who would testify that injuries suffered by a child were most likely the result of intentional physical abuse. The defendant's appointed counsel contacted a single expert for assistance who informed counsel that he would not be able to testify

in support of defendant's case. *Id.* at 385. "He also explained to counsel that there was a marked difference of opinion within the medical community about diagnosing injuries that result from falling short distances, on the one hand, and shaken baby syndrome (SBS) or, as it is sometimes termed, abusive head trauma (AHT), on the other hand." *Id.* "Hunter asserted that this divide is 'like a religion' because each expert has deeply held beliefs about when each diagnosis is supported, and the defendant should have the benefit of an expert who, 'in his or her religion, believes this could be a short-fall death.'" *Id.* (brackets omitted). The expert "emphasized to counsel that he was on the wrong side of this debate to be able to assist the defendant." *Id.*

In *Ackley*, the defendant's counsel "called no expert in support of its theory that the child's injuries resulted from an accidental fall, although the court had provided funding for expert assistance." *Id.* at 384. The defendant's counsel apparently never sought out another expert, despite being given the name of another expert by the expert who declined to testify on the defendant's behalf. *Id.* at 385-386. Nor did counsel read medical treatises or other articles on the topic. *Id.* at 386. Instead, the defendant's counsel continued to seek the same expert's assistance, despite his explanation that he could not support defendant's case. *Id.* at 386-387. Our Supreme Court concluded that the defendant's counsel provided ineffective assistance by completely failing to seek the assistance of an expert who could support the defendant's theory and counter the prosecution's experts, and by failing to develop a trial strategy based on familiarity with the readily available journal articles to educate himself on the medical issues at the core of the case. The defendant's counsel's conduct resulted in the presentation of a defense theory that lacked expert testimonial support and a defense counsel insufficiently equipped to challenge the prosecution's expert. *Id.* at 389-394.

In this case, unlike the defendant's counsel in *Ackley*, the record reflects that Lord investigated SBS/AHT and became informed regarding the conflicting scientific studies. He investigated suitable expert witnesses. Lord was an attorney with over 30 years of experience. His practice was 95% related to criminal matters. His practice included both retained and indigent appointed clients. He tried 15-20 jury trials per year. He was well familiar with the assigned trial judge. He found a suitable expert, Dr. Bandak, who could provide expert testimony to rebut the prosecution's expert witness's testimony. Lord testified at the evidentiary hearing that he paid from his own retainer an initial fee required by Dr. Bandak. To testify at trial, however, Dr. Bandak required an additional fee of \$1500 per day plus expenses. Lord testified that he looked for other experts but could find none that were willing to come forward and testify. Lord contacted the State Appellate Defenders Office. Lord did online research. Lord also explained that defendant told him repeatedly that he would pay the required fees for Dr. Bandak to appear and testify at trial. Lord testified that he made clear to defendant the need for expert testimony in his defense and he obtained multiple adjournments of the trial to enable defendant to find funding to pay Dr. Bandak. Defendant made multiple direct and unequivocal representations that he would obtain the funds necessary for retention of an expert. Lord believed defendant's representations that he intended to pay Dr. Bandak's fees by borrowing from his sister or mother. However, two weeks before trial, a trial date which had been adjourned multiple times at the request of Lord, specifically so defendant could obtain the funds he said he would, defendant disclosed to Lord, well after the deadline for filing motions expired that he did not have the money to pay Dr. Bandak's fees and that he chose not to ask his mother for the funds because he did not want her going into debt for him. Lord also testified that

defendant intended to testify on his own behalf and he expressed his belief that he did not need an expert because the jury would find him credible.

Lord also testified at the evidentiary hearing that, with Dr. Bandak's expert assistance, he informed himself of the critical issues to enable him to present a defense theory and cross-examine the prosecution's expert witness regarding the scientific evidence and opinion that conflicted with the prosecution's expert witness's opinions. The trial record reflects that Lord extensively cross-examined Dr. Gilmer-Hill regarding the scientific studies that disagreed with her opinion regarding the cause and origin of the child's injury in this case. Further, in his opening statement and closing argument, Lord presented defendant's defense that the prosecution's expert witness turned a blind eye to scientific studies that contradicted her opinion, and as a result she failed to appropriately analyze the evidence because she relied on a preconceived singular notion of the cause of the child's injury. Lord's opening statement and closing argument reflect a calculated strategy to cast reasonable doubt as to defendant's guilt. Defense counsel's conduct did not deprive defendant of his defense that alternative explanations founded in scientific studies existed to explain the child's injuries that supported defendant's explanation of his innocence. The present case is distinguishable from *Ackley*, where the defendant's counsel did nothing to investigate the availability of a suitable expert and utterly failed to inform himself of the critical issues to enable putting forth a defense. In *Ackley*, the defendant's counsel's ineptitude deprived the defendant of a defense. De novo review of the record establishes that such deficiencies are not present in this case. The record reflects that Lord acted prudently under the circumstances, developed a sound trial strategy, and presented a strong defense for defendant. Accordingly, Lord's conduct did not fall below an objective standard of reasonableness.

Defendant also argues that Lord should have obtained the assistance of another expert who would have provided his or her services to defendant pro bono. "[D]efendant has the burden of establishing the factual predicate for his claim of ineffective assistance of counsel." *People v Hoag*, 460 Mich 1, 6; 594 NW2d 57 (1999). In his motion for a new trial submitted to the trial court, defendant contended that because he has now found experts willing to provide their services pro bono, surely, Lord could have done the same in 2005. The fact that defendant now may have found pro bono experts to support his cause does not establish that suitable experts were available and willing to serve in this case on a pro bono basis in 2005. Lord testified at the evidentiary hearing that he searched for suitable experts other than Dr. Bandak who could testify on defendant's behalf. He found none willing to come forward and testify. The record reflects that Dr. Bandak's theories were based on cutting-edge technology and were not widely accepted in 2005. Given the state of the debate regarding SBS/AHT diagnoses at that time, we are not persuaded that Lord had the ability in 2005 to find a suitable substitute expert as defendant now contends.

Defendant represents in his brief on appeal that the experts who provided him affidavits in support of his motion for a new trial would have testified for free in 2005. The experts' affidavits, however, say nothing of the sort. The experts' affidavits indicate only that they could have provided helpful testimony to defendant in 2005, but none state that he or she would have testified on defendant's behalf for free. Ultimately, defendant has offered no more than speculation that Lord might have been able to find another suitable expert in 2005 who would have provided testimony supporting defendant's theory of the case for free. Further, defendant

has failed to rebut Lord's testimony at the evidentiary hearing that he sought other experts to assist in this case but could not locate a suitable expert and knew of none who would testify for free. Defendant's argument that Lord provided ineffective assistance in this regard lacks merit because he has not established the requisite factual predicate for his claim of ineffective assistance.³

Defendant also asserts that Lord should have sought public funding for Dr. Bandak, or perhaps another expert. Defendant argues that a request for fees should have been made under MCL 775.15. While our Supreme Court has very recently held that this statute does not apply to requests for the appointment of expert witnesses, *People v Kennedy*, 502 Mich 206, 223; 917 NW2d 355 (2018), that is not relevant to our analysis here. At the time of defendant's trial, controlling precedent considered MCL 775.15 as the source for the trial court's authority to provide indigent defendants with funds to hire expert witnesses. See *Kennedy*, 502 Mich at 221-222.

MCL 775.15 states:

If any person accused of any crime or misdemeanor, and about to be tried therefor in any court of record in this state, shall make it appear to the satisfaction of the judge presiding over the court wherein such trial is to be had, by his own oath, or otherwise, that there is a material witness in his favor within the jurisdiction of the court, without whose testimony he cannot safely proceed to a trial, giving the name and place of residence of such witness, *and that such accused person is poor and has not and cannot obtain the means to procure the attendance of such witness at the place of trial*, the judge in his discretion may, at a time when the prosecuting officer of the county is present, make an order that a subpoena be issued from such court for such witness in his favor, and that it be served by the proper officer of the court. And it shall be the duty of such officer to serve such subpoena, and of the witness named therein to attend the trial, and the officer serving such subpoena shall be paid therefor, and the witness therein named shall be paid for attending such trial, in the same manner as if such witness had been subpoenaed in behalf of the people. [Emphasis added.]

Before *Kennedy*, courts interpreted MCL 775.15 to authorize discretionary "payment for an expert witness, provided that an indigent defendant is able to show that there is a material witness in his favor within the jurisdiction of the court, without whose testimony he cannot safely proceed to trial[.]" *People v Carnicom*, 272 Mich App 614, 617; 727 NW2d 399 (2006) (quotation marks and citation omitted). If the defendant made the required showing, the trial court had the discretion to "grant funds for the retention of an expert witness." *Id.* "A trial court [was] not compelled to provide funds for the appointment of an expert on demand." *Id.* (citation omitted).

³ The *Ginther* hearing transcript discloses the strategic analysis undertaken by Lord, based on his three decades of trial experience, respecting the advantages of experts who are exceptionally well qualified and the disadvantages of lesser qualified experts who can actually harm a client's case.

To qualify for funds to pay an expert, defendant would have been required to demonstrate that he was, in fact, indigent at the time he sought funds. Defendant claims on appeal that the trial court concluded that he was indigent in 2005, and that such a finding is unquestionably correct. Defendant, however, misrepresents the trial court's decision. The trial court did not make a finding that defendant was indigent. The trial court simply noted that Lord did not testify that defendant had more financial resources available than defendant had represented to him. Further, Lord relied on defendant's representation that he lacked sufficient cash on hand to pay Dr. Bandak at the time of his trial. That does not conclusively establish indigence, and is not a finding of indigence by the trial court.

The question whether defendant could establish indigent status in 2005 cannot be easily ascertained. No hard-and-fast rule exists for defining indigence. *People v Arquette*, 202 Mich App 227, 230; 507 NW2d 824 (1993). The applicable court rule, MCR 6.005(B), remains the same now as it was in 2005, and established the factors for consideration by the trial court to determine whether a criminal defendant is indigent:

- (1) present employment, earning capacity and living expenses;
- (2) outstanding debts and liabilities, secured and unsecured;
- (3) whether the defendant has qualified for and is receiving any form of public assistance;
- (4) availability and convertibility, without undue financial hardship to the defendant and the defendant's dependents, of any personal or real property owned; and
- (5) any other circumstances that would impair the ability to pay a lawyer's fee as would ordinarily be required to retain competent counsel.

The ability to post bond for pretrial release does not make the defendant ineligible for appointment of a lawyer.

Defendant correctly asserts that an indigent defendant's status does not change simply because his friends or family decide to pay for his legal defense. In *Arquette*, 202 Mich App at 230, this Court explained that "indigence is to be determined by consideration of the defendant's financial ability, not that of his friends and relatives." In this case, whether defendant would have been found indigent is questionable. The record reflects that defendant had regular employment for years, rented a home, and paid utilities. No evidence establishes that he received any form of public assistance. The record reflects that his annual wages in 2005 were at least \$15,000. He also received \$50 a week in child support. Thus, he had an annual income of over \$17,000. While certainly not dispositive, in 2005, the federal poverty level for an individual with one dependent child was \$12,380.⁴ Defendant's income was nearly 140% of the

⁴ See Prior HHS Poverty Guidelines, available at <https://aspe.hhs.gov/prior-hhs-poverty-guidelines-and-federal-register-references>. This Court may take judicial notice of facts that are

federal poverty level in 2005. Defendant has not established that he would have been determined indigent at the time of his trial.

Regardless, the question remains whether Lord's failure to seek funds from the trial court constituted objectively unreasonable conduct. Lord's testimony at the evidentiary hearing establishes that he knew that in the defense of an indigent defendant during 2005, he could turn to the court for funds to hire an expert witness, having done so on other occasions. Lord, however, testified that he had never himself sought such funding for a defendant who had retained him and he also lacked awareness of any other retained attorney who ever sought funding from the court for an expert witness. We cannot fault Lord for failing to advance what would have been a fairly novel position, that an individual in defendant's financial position, and who had twice retained counsel in this case, could nonetheless qualify as an indigent defendant entitled to court funding of an expert witness. See *People v Reed*, 453 Mich 685, 695; 556 NW2d 858 (1996) (counsel cannot be deemed ineffective for failing to advance a novel legal argument).⁵

Even if we assume that the trial court would have deemed defendant indigent, the record reflects that Lord made strategic trial decisions in consultation with his client and consulted with Dr. Bandak to present the defense favorable to defendant. The record indicates that Lord followed his client's direction after fully advising him, prepared his defense, and advocated diligently for defendant at trial. Defendant cannot fault Lord for believing his representations throughout the preparation of his case right up to two weeks before trial that he would pay Dr. Bandak's fees. The record also reflects that, even if Lord requested funds from the trial court, the \$500 customary amount granted by local courts in 2005 would have fallen short of the amount needed for Dr. Bandak's trial preparation and testimony. Therefore, even a successful motion for expert funds likely would have provided defendant no guaranty of the ability to pay for Dr. Bandak's trial testimony. Accordingly, even if we were to find that Lord's conduct fell below an objective standard of reasonableness, we are not convinced that, but for such purported deficient conduct, the outcome would have been different. *Trakhtenberg*, 493 Mich. at 51.

The record establishes that, faced with defendant's late announcement that he could not obtain the funds to pay Dr. Bandak, Lord adjusted the defense strategy and relied on defendant's testimony, as well as, the information he learned from Dr. Bandak, to successfully cross-examine the prosecution's expert. Defendant approved this trial strategy. While Lord was not necessarily bound by defendant's belief that he could prevail without an expert, "[t]he reasonableness of counsel's actions may be determined or substantially influenced by the defendant's own statements or actions." *Strickland v Washington*, 466 US 668, 691; 104 S Ct 2052; 80 L Ed 2d 674 (1984).

"capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned." MRE 201(b).

⁵ The record from the evidentiary hearing establishes that in 2005, it is highly unlikely that the trial court would have provided public funds for the retention of an expert in a case where defendant was represented by privately retained counsel.

Defendant asks over a decade later that, with the benefit of hindsight and disregard for his own actions in determining his defense, we conclude that Lord provided him ineffective assistance. However, a “fair assessment of attorney performance requires that every effort be made to eliminate the distorting effects of hindsight, to reconstruct the circumstances of counsel’s challenged conduct, and to evaluate the conduct from counsel’s perspective at the time.” *Strickland*, 466 US at 689. As the United States Supreme Court explained in *Harrington*, 562 US at 105:

Even under de novo review, the standard for judging counsel’s representation is a most deferential one. Unlike a later reviewing court, the attorney observed the relevant proceedings, knew of materials outside the record, and interacted with the client, with opposing counsel, and with the judge. It is all too tempting to second-guess counsel’s assistance after conviction or adverse sentence. The question is whether an attorney’s representation amounted to incompetence under prevailing professional norms, not whether it deviated from best practices or most common custom. [Quotation marks and citations omitted.]

De novo review of the record in this case does not support defendant’s claims of ineffective assistance of counsel. Therefore, defendant has failed to establish that Lord’s performance fell below an objective standard of reasonableness under the prevailing norms of competent practice at the time, and defendant cannot establish that but for Lord’s conduct, defendant’s trial would have resulted differently. Accordingly, defendant lacks entitlement to any relief.

Affirmed.

/s/ James Robert Redford
/s/ Jane E. Markey
/s/ Kirsten Frank Kelly

APPENDIX B

Trial Court Opinion, dated February 1, 2018

STATE OF MICHIGAN
IN THE CIRCUIT COURT FOR THE COUNTY OF ST. CLAIR

PEOPLE OF THE STATE OF MICHIGAN
Plaintiff,

-vs-

Case No. 05-000220-FH
HON. MICHAEL L. WEST

TERRY LEE CEASOR
Defendant.

OPINION AND ORDER

CIRCUIT COURT FOR THE 31ST JUDICIAL CIRCUIT OF MICHIGAN

This matter is before the court pursuant to Defendant, Terry Lee Ceasor's motion for a new trial. Defendant, Terry Ceasor was convicted by a jury of first degree child abuse on December 17, 2005. He was sentenced by this Court's predecessor, Honorable James P. Adair to 2-15 years in state prison. Defendant appealed his conviction to the Court of Appeals. The Court of Appeals affirmed Defendant's conviction. After exhausting his state court appellate rights, Defendant sought relief in federal court on a writ of habeas corpus. At that time, the People of the State of Michigan were being represented by the Attorney General for the State of Michigan and not the St. Clair County Prosecutor's Office. A stipulation was entered into between the Attorney General and Defendant to grant the writ of habeas corpus and order the Michigan Court of Appeals to grant Defendant a new appeal of right because Defendant's appellate counsel failed to pursue a claim of ineffective assistance of trial counsel that the parties stipulated was likely to be successful. Pursuant to the stipulation, the United States District Court for the Eastern District of Michigan issued the order on May 12, 2017. On May 19, 2017 the Court of Appeals opened

new direct appeal case under Docket No. 338431. Defendant filed the instant motion for a new trial pursuant to MCR. 7.208(B) alleging ineffective assistance of trial counsel.

The ineffective assistance claim

Defendant's claim of ineffective assistance of trial counsel involves the subject of a defense expert. Defendant claims his trial counsel was ineffective because he did not present the testimony of a defense expert to counter the prosecution's expert on the subject of shaken baby syndrome. Defendant relies heavily on the 2015 Supreme Court decision in *People v Ackley*, 497 Mich 381(2015) wherein the Supreme Court held it was ineffective assistance of counsel to proceed to trial in a shaken baby syndrome case without a defense expert. The question here is whether in 2005 trial counsel's failure to procure and present the testimony of a defense expert fell below an objective standard of reasonableness under *Strickland v Washington*, 466 US 668; 104 S Ct 2052 (1984).

The parties agree that Defendant's retained trial counsel recognized the importance of an expert in this case. A defense expert had been consulted and agreed to review the file without payment in anticipation of being retained on the file. After several adjournments of the trial date, Defendant advised his attorney the funds needed would not be available. Consequently, no expert was retained and Defendant proceeded to trial without a defense expert.

The sole question raised in Defendant's motion is whether Defendant's trial counsel's performance was objectively unreasonable when he did not seek funds from the Court to pay for a defense expert pursuant to MCL 775.15. Because that question could not be answered without additional facts, on August 30, 2017 this Court entered an order directing that an evidentiary hearing be conducted consistent with *People v Ginther*, 390

Mich 436(1973) to determine whether the first prong of the *Strickland* standard could be met. If the first prong could be satisfied, further evidence would be needed to decide if the prejudice requirement could also be met.

An evidentiary hearing was conducted on September 21, 2017. The Court heard testimony from four witnesses.

The Ginther Hearing Testimony

Defendant offered the testimony of two witnesses in addition to his own testimony to establish that he was indigent and had limited financial resources in 2005. Despite his claimed indigence in 2005 Defendant did not request court appointed counsel because his mother had retained two different lawyers. His first attorney was Attorney David Black. Mr. Black was retained prior to the preliminary examination and was paid \$1,000 by Defendant's mother, Diana Hastings. Black's services were terminated after the preliminary exam for reasons that are unknown. Defendant then retained the services of Attorney Kenneth Lord. Ms. Hastings testified she paid Mr. Lord a retainer of \$2,500. She testified she paid Mr. Lord not knowing what the scope of the representation would ultimately be.

Ms. Hastings was aware that Defendant and Mr. Lord had been discussing retaining a defense expert in the case. She testified her son told her the defense expert was going to cost \$10,000, but he never asked for money to pay the expert. Ms. Hastings testified that at no time did she suggest to her son that he obtain court appointed counsel. Defendant testified he never asked his mother for the money because she didn't have any more money to give.

Mr. Lord testified that he practiced criminal law for over 30 years and that criminal law represented 95% of his practice. He tried 15-20 jury trial cases per year. He knew the importance of an expert witness and it was discussed at length with Defendant.

Mr. Lord knew that Defendant did not have sufficient resources of his own to hire Dr. Bandak, the expert Mr. Lord had consulted with and who was willing to take the case. Based on his discussions with Dr. Bandak, Lord indicated to the Defendant he was willing to wait for the balance of his fee so the Defendant could focus on raising money for the defense expert. Lord testified Mr. Ceasor said he was going to work on getting the money.

Mr. Lord believes Dr. Bandak's anticipated trial fees were less than the \$10,000 testified to by Defendant's mother. Lord estimated the total fees to be in the \$4,000-\$5,000 range. It broke down as an initial \$750, then \$1,500 per day plus expenses. Mr. Lord testified Defendant kept telling him he was going to try to raise the money. Because of his personal financial situation Lord knew Defending would be likely seeking help from his family.

While these discussions were taking place Defendant's scheduled trial date was fast approaching. Mr. Lord testified that he sought several adjournments of the trial date from the prosecutor and the Court to allow Defendant more time to raise the money. Mr. Lord represented to the Court the adjournments were needed because Defendant was trying to raise funds for the defense expert and needed more time. It was not until approximately two weeks before a date certain trial date that Defendant informed Mr. Lord he couldn't get the money because he didn't want to put his mother in debt. By this time, Lord testified the trial date had been adjourned several times and the motion cut-off date had

long since passed. Lord did not file a motion asking the Court to allocate funds to hire a defense expert.

Lord testified that he also worked as a court appointed defense attorney and in that capacity he had petitioned the Court for funds to hire experts. He said in those situations the question of indigency had already been determined. He testified that when a Defendant had retained counsel he was not considered to be indigent, and you didn't apply. In over 30 years of practice as a criminal defense attorney Lord testified he never filed a motion for the expenditure of public funds to hire an expert on behalf of a client who retained him. Lord further testified that during his career as a defense attorney he is not aware of any of his colleagues filing such a motion or the Court in St. Clair County granting such a motion.

Portions of the Defendant's trial counsel's testimony are important to highlight in order to fully understand the thought processes of trial counsel and the pre-trial and trial strategy employed.

By Mr. Moran:

Q. But you don't dispute the accuracy of what he said about how what you, you would have said that the expert's more important than your fee?

A. As far as that, no, I, I don't dispute that. I made that clear to Terry Ceasor right from the outset.

Q. Okay, Now you did consult with an expert Doctor Bandak; is that right?

A. I did not remember his name until you called me and, yes, I did. On multiple occasions.

Q. And we've heard the number \$1,500.00. Was that Mr. Bandak's or Doctor Bandak's fee? Initial consulting fee?

A. I don't remember it being \$1,500.00. I remember it being approximately \$750.00 to do the initial review and report. And then we had discussed and explained Mr. Ceasor's situation and Mr. Bandak or Doctor Bandak had indicated that he would work with me of the fee.

Q. Okay. But it was going to be more?

A. Absolutely.

Q. And did you ever end up paying Doctor Bandak more?

A. No. (Transcript pg. 7).

By Ms. Georgia:

Q. No. I, I guess I want to start with, with where Mr. Moran left off. He read you a couple portions of the transcript where you indicated to the jury that, that Mr. Ceasor couldn't afford and expert. Why did you do that?

A. Well, there are a couple of reasons. When you're preparing for trial, you develop a trial strategy. Um, and given the nature of what had occurred about the expert witness I was left without what I thought was going to be provided to me and I wanted to do two things. One, I wanted to put -- you know, engender sympathy towards my client. I, I viewed Terry as a hard working individual that would come across to the jury as a hard working individual and often when you're getting a jury especially in an area like in St. Clair County you want them to understand that coming up with money is difficult situation. And that that way we could go after the expert witness without having someone to combat and combat that. So, it was part of my trial strategy. (Transcript pgs. 11, 12).

Q. Was there any difference in the way you would handle a need for an expert between a retained case or a court-appointed case?

A. Well, yes, in a court-appointed case your client is already determined that he's indigent and then you would apply to the court prior to the ending of the motion period for court-appointed expert.

Q. And --

A. And then, and then you get what the court allows you.

Q. And as far as retained cases how was that different?

A. Well, you're not indigent. You don't apply.

Q. Have you ever sought court-appointed expert funds in a case where you were retained?

A. Not, not that I can remember ever.

Q. And that would be because your client wasn't indigent, correct?

A. Well, also almost all my clients came up with what they promised that they'd come up with. (Transcript pgs. 13, 14).

Q. If you could describe for the Court -- you've already kind of touched on this, but explain to the Court what you did to engage Mr. Bandak in this case as an expert?

A. Well, my first was find an expert. Back in -- my memory of the events is that shaking baby syndrome was -- the technology or the, the type of testimony Mr. Bandak was going to -- Doctor Bandak was going to provide was leading edge technology. My research indicated that he was on the forefront of that. There weren't a lot of people willing to come forward and everything. Prior to that it's just been acceptance of the doctors.

So I went to SADO. I don't remember if they gave me the name. I went online and I found Doctor Bandak. I called him. Um, I told him my client was going to be raising the money. He asked me to send him copies of the police report and the evidence, the Preliminary Exam transcript and I did. And I had two or three more conversations with him concerning what he thought of the case. He thought that he could help me. He thought that -- I, I believe his degree was in engineering and he had done studies to show that it could actually have occurred the way Mr. Ceasor had said it occurred.

During the course of that conversation I talked to him about finances and indications was -- and, and I believe. Again, I can't swear but I believe the initial consultation and all the phone calls I had with him was \$750.00 and I, I told him that Mr. Ceasor did not have a lot of money. That he was possibly going to sell his car. He had indicated buying it from a -- borrowing from his parents or from a relative and based upon that I filed for adjournments. I, I believe I filed a motion to adjourn so that we'd have more time to raise money because Mr. Ceasor was telling me he was going to get more money.

At that point I -- Doctor Bandak said that his fee would be approximately \$1,500.00 a day plus expenses that that's where the figure \$3,000.00 is coming from. I've done whole murder trials for less than \$10,000.00. (Transcript pgs. 14, 15).

Q. What did Mr. Ceasor tell you about coming up with this money?

A. Well Mr. Ceasor told me he was going to try to raise the money, which is why I kept asking for adjournments. Otherwise I wouldn't have represented to the court or filed a motion for adjourn to give my client time to raise the money.

Mr. Ceasor to my memory didn't tell me that we weren't going to get the money just shortly before trial after the Motion/Pre-Trial date had -- was cut off and after I had requested numerous times for adjournments and filed a motion to have more time.

Q. Was seeking adjournments something that you typically did with a pending case or --

A. No.

Q. Were those easy to get in this case?

A. No.

Q. Can you tell me why?

A. Yeah.

Q. Not a loaded question.

A. Under oath. I'm I'm not the Prosecutor's Office favorite person. I guess I can be a bit contentious on behalf of my clients at time, but I was able to get the cooperation of the Prosecutor's Office on this particular case.

Q. So you were able to get these adjournments --

A. Yes.

Q. -- under the understanding it was for the Defendant to come up with some money?

A. Yes.

Q. Did you make those kids of representations to the prosecutor and the court?

A. My memory is I actually filed a motion that was, that was the basis for the reason but, yes, I made those representations to the Prosecutor's Office. I made the representations it would have been in chambers with the court when we -- if -- a typical trial roll call might be four or five trials and we'd go in and, and the court would talk with, with us. Any chance of a resolution and I would say, you know, your Honor, we wouldn't mind an adjournment because -- and we need more time to raise money for an expert witness and the court would give it to me.

I would not make those representations to the court if I didn't believe my client was going to come up with the money. I would not have filed a motion if I didn't believe my client was not going to come up with the money.

Q. And are you meeting with Mr. Ceasor throughout this time, throughout the Pre-Trial time and is he, is he still telling you: I'm going to get the money. I'm going to get the money?

A. My memory of events Mr. Ceasor says I'm doing everything I can to get the money. I liked Mr. Ceasor. I was angry with Mr. Ceasor, but I liked him.

Q. Did you believe Mr. Ceasor when he told you he was going to come up with the money?

A. Yes. (Transcript pgs. 18- 21).

Q. You said you became angry with him. Why was that?

A. It was a late notification of the fact that he wasn't going to come up with the money.

Q. Were you passed all of your motion dates as far as the trial docket?

A. Well passed

Q. Do you remember roughly how far in advance of trial he actually came to you and said --

A. It's an estimate. A couple of weeks.

Q. When he came to you, what did he say? How did he tell you he wasn't going to get this money?

A. I don't remember word for word, but roughly that -- Mr. Ceasor always maintained his innocence to me. He was very forthright in that, but he also indicated that at that time that he didn't feel that he'd need an expert. That he was a witness and that the jury would believe his testimony. He'd be a good witness.

Q. When Mr. Ceasor came to you and told you that he wasn't going to come up with the money, what were your options at that point?

A. Go to trial. I was, I was -- I, I never thought of filing a motion because I didn't not believe that Mr. Ceasor could not -- honestly, I knew that Mr. Ceasor himself was too poor to have the money, perhaps, but he had indicated he was willing to borrow from his mother and his mother was willing to give it to him. Whether or not that's true I don't know, but that's what he represented. But he felt he didn't want to put his mother in any further debt. (Transcript pgs. 21, 22).

Q. In terms of filing a motion with the court for funds for an expert, did you feel that you could file such a motion?

A. No.

Q. Did you believe he was actually indigent and would have met the standard?

A. I believe that Terry felt in his mind he was indigent and would have met the standards.

Q. Okay. But as far as filing a motion you did not think that that was an appropriate course of action?

A. Well, there were a lot of factors involved. One is we were well passed the Motion/Pre-Trial date. Two, I made numerous representations based on Mr. Ceasor's representations to be that there was. That close to trial and it was a date certain definite trial I'd not be able to get another adjournment and I never ever had the court on a retained case grant a court-appointed payment for and expert witness fee.

Q. Did Mr. Ceasor ever tell you that he couldn't come up with the money or was it a choice not to?

A. My memory of the conversation was he didn't want to have his mother go into debt for the loan. That he was concerned about that. So, it was his choice not to ask his mother for the loan.(Transcript pgs. 23, 24).

Q. Was there any point prior to that two week mark before the trial when he came to you and said: I am not going to be able to do this. I cannot afford this?

A. No. I would have not gone repeatedly in front of the court nor filed a motion if my client told me he couldn't come up with the money. I, I would lose all integrity with the court and that's where I make my living, or did. (Transcript pg. 27).

By the Court:

You talked about it somewhat and my initial question is really general in scope, but you've talked about the difference between a retained attorney/client relationship and one that is court-appointed. And you've described a situation in the court appointed situations where a determination has already been made by the court that a defendant is indigent. Therefore, a court-appointed counsel is provided in those situations from time to time depending upon the case a request for funds for an expert witness may be made. So, that's the one situation as a general matter.

Is the retained attorney/client relationship you've indicted that you personally, if I understood your testimony correctly, have never made a request for expert witness funds claiming that even though I'm a retained lawyer my client has indicated to me that he has no money. He, therefore, qualifies as being an indigent person and he would, therefore, be entitled to consideration for the appointment of or at least the appropriation of funds to go out and hire his own expert. Have you -- you've never done that?

THE WITNESS: No.

THE COURT: All right.

THE WITNESS: I've never done that, your Honor.

THE COURT: And, you've practiced criminal law in St. Clair County for upwards 30 years?

THE WITNESS: Pretty close to 31.

THE COURT: Are you aware of anyone, any colleague of yours, any other lawyers that you may have observed on a Monday afternoon motion day having made such a request?

THE WITNESS: I don't ever remember such a ques -- I'm not saying it didn't happen, but to my knowledge, no.

THE COURT: Okay. This may be somewhat of an unfair question in light of the lack of knowledge to the earlier question, but are you aware of the court and in particular this particular court -- at that time Judge Adair would have been presiding judge, my predecessor -- are you aware of Judge Adair or any of the other judges in St. Clair County granting such a request? Meaning, we have a retained attorney in a retained attorney/client relationship that is now standing before the court saying my client doesn't have any money. This is a case where we need to hire an expert. I don't feel I can safely proceed to trial

without the benefit of an expert. Are you aware of the court every granting such a request?

THE WITNESS: No. Even in court-appointed cases you're limited to the amount of finances. I have been court-appointed and asked for an expert witness is limited to a 500 expenditure.

THE COURT: Kind of going -- let's go back to that just for a second.

So your, your understanding in a court-appointed situation is even though I have a greater chance or at least I -- because the question of indigency has already been determined by the court at the forefront of the case I -- there's a chance that I might be successful in having some funds appropriated, but it's going to be a limited amount?

THE WITNESS: That's been my experience.

THE COURT: And I guess we could all agree that there are the A list experts, there are B list experts, and there might be a C list experts and maybe on down the line. The expert that you had been in contact with I, I know I've heard it several times, but I'm not sure that I --

THE WITNESS: Doctor Bandak.

THE COURT: Doctor Bandak. Where would you put him in terms of A list, B list, C list, and that kind of thing?

THE WITNESS: He would -- my reading -- again, this is going what I've learned off the Internet and talking to SADO he was A plus. He was cutting edge in a field that's now more fully developed that these injuries can, indeed, occur in the ways that are inconsistent with what the doctors have been testifying to.

THE COURT: Has it been your experience that the A list or the A plus experts, A plus list experts are more expensive than the B, C D, E list experts?

THE WITNESS: Yes

THE COURT: If you were to have been appro -- let's -- assuming that you made the request that the, the Defendant and, and his counsel in this case assert that you should have made to go before the court and ask for public funds to retain your own private expert. Knowing what the typical amount was granted in court-appointed expert -- court-appointed attorney cases, the other relationship, would appropriation as you understand it to typically be would that have been sufficient to retain the services of Doctor Bandak?

THE WITNESS: No. Doctor Bandak's original fee was higher than the \$1,500.00 we talked about spending. Doctor -- I, I really enjoyed talking -- he wasn't like a lot of typical experts I talked to. He actually gave freely of his time and advice and seemed genuinely concerned in the outcome of Mr. Ceasor's trial. So, we did negotiate. Otherwise I think he probably would have been more.

THE COURT: It sounds like the pool of available experts in this particular area was somewhat limited at, at that time simply because of the nature of the issues and the medical concerns and things of that

sort. Am I hearing that correctly from what your research or contact with SADO may be revealed?

THE WITNESS: I was unaware of any experts in this area willing to testify against a doctor from the Detroit area and Children's Hospital. I was unaware of any other experts in that area.

And the difficulty quite frankly, your Honor, is if you get a C list expert they can damage your case more than they help it. But at that point I was also -- I would have been reluctant going in front of the court given all the representations I had made saying, you know, we need more time. My client's raised the money. He's going to do this. He's going to do that. Filing a motion for stipulate adjourn. I didn't say: Oh, by the way my client's broke and I knew this for five months. The chances of me granting and having an expert granted were slim to nonexistent. And if I would have then I would have had an adjournment to start over with a new expert because I'd already given him the prep materials to the one I thought we agreed on hiring. (Transcript pgs. 37-42).

Analysis

The ineffective assistance issue presented here is far more narrow than originally presented in Defendant's motion. The importance of a defense expert is not disputed. Because it is not disputed, Defendant's reliance on *People v Ackely*, 497 Mich 381 (2015) is overstated. However, *Ackely* is still important to the analysis. While it was unclear at the outset of the hearing what the evidence would be regarding Defendant's personal finances, Mr. Lord did not quarrel with Defendant's evidence and believed in 2005 Defendant did not have funds of his own to hire an expert.

In *Ackely* the defendant was indigent and had court appointed counsel. The situational differences presented by a retained attorney client relationship and the implications a motion for allocation of public funds to hire a defense expert present, did not exist in *Ackely*. Moreover, *Ackely* established a minimum or threshold standard of performance for an attorney in a shaken baby syndrome case that did not exist in 2005. These differences must be factored into the analysis of whether Defendant's trial counsel's

performance fell below an objective standard of reasonableness when he did not request public funds to hire an expert.

The testimony of Defendant's trial counsel establishes he was expecting the expert he had consulted would be hired. He testified repeatedly the Defendant told him he was trying to get the money. Based upon those representations trial counsel sought and obtained several adjournments of the scheduled trial dates. The requested adjournments were based on representations to the Court that more time was needed to get the funds to hire the expert. It was not until approximately two weeks before a date certain trial date that Defendant informed his trial counsel he was not going to be able to get the money because he didn't want to put his mother in debt. According to his trial counsel, Defendant further represented they should be okay without an expert, or words to that effect.

Defendant's current counsel is critical of trial counsel because he contends a motion for witness fees still could have been filed pursuant to MCL 775.15 even if it was not likely to be granted. It is not clear whether defense counsel is suggesting a motion should have been filed immediately once the need for an expert had been determined, after some indeterminate period of time passed without funds being raised, or after it became clear funds would not be available. Theoretically, a motion could have been filed at any time. But that is not the question. The question is whether trial counsel, based upon the totality of the circumstances, was constitutionally ineffective for not filing a motion he believed had no chance of being successful.

In this case, trial counsel recognized the importance of a defense expert and expressed that importance to Defendant. Defendant and trial counsel differ on what the expert was going to cost, but it is clear Defendant was looking into raising the money and

talked with his mother about it. Defendant testified she didn't have any more money to give him. Whether Defendant's mother had the money, had some money or was willing to help in getting the money was never established. Defendant was not examined about the extent of his fund raising efforts with his mother or others, or when or how it was determined she had no more money to give him. Defendant's mother, Diana Hastings testified her son told her the expert would cost \$10,000, but she testified he never asked for her for any money. Ms. Hastings never testified that she did not have the money or could not help. This testimony provides credibility and support for Defendant's trial counsel's testimony that he reasonably believed Defendant was trying to raise the money and that he did not inform his attorney it was not going to happen until just before a hard trial date.

The evidence presented during the hearing fails to establish Defendant's trial counsel's performance fell below an objective standard of reasonableness. Those who practice criminal defense law both as court appointed counsel and retained counsel, generally recognize differences when it comes to the availability of public resources to advance a particular strategy or goal. While there is no true presumption of non-indegency simply because one has a retained defense attorney, the perception still exists. Because the perception is real, it is not unreasonable for retained defense counsel to believe they would not be successful in obtaining public funds to retain a defense expert even if the client's indegency could be established. This perception is re-enforced when the history of practice in the local jurisdiction is such that defense counsel have no reasonable expectation to believe such a motion would be successful, or if successful, sufficient in amount. This Court's knowledge of the history of criminal defense practice in St. Clair

County at that time and a request for public funds for defense experts is consistent with Mr. Lord's testimony, both as to the court appointed and retained forms of representation.

This case requires the additional considerations of a stated desire and attempt to secure private funds for a particular expert in a cutting edge field, and a reasonable expectation funds those would be available without the dollar amount limitations typically involved when public funds are appropriated. Trial counsel was in a box when he was informed by Defendant at the 11th hour he would not be able to get the necessary funds, after having secured several adjournments of trial based upon representations more time was needed to get the money. At that point, Defendant stated he was prepared to proceed without an expert, according to Mr. Lord's testimony, and accept the associated risks.

It can be argued that recent decisions of the Michigan Supreme Court and Michigan Court of Appeals are now requiring trial courts to more closely examine the need for a requested defense expert and the payment of reasonable compensation. However, these requests almost universally involve indigent defendants with court appointed attorneys. If this case would have been tried today, the decision in *People v Ackely*, 497 Mich 381 (2015) could likely require a finding of ineffective assistance of trial counsel. It can now be argued a new threshold standard of reasonableness now applies in a shaken baby syndrome case that did not exist in 2005. Because of *Ackely*, courts that might have routinely denied funds for experts for defendants with retained attorneys should now be required to reconsider that position in a shaken baby syndrome case. The distinctions and circumstances that this Court finds fails to support a finding of ineffective assistance of counsel in Defendant's 2005 representation may no longer be considered reasonable

today. But in 2005, trial counsel cannot be charged with the knowledge or expectation that ten years later, in 2015, the Supreme Court would rule as it did in *Ackley*.

For the reason's stated above, Defendant's motion for a new trial is DENIED.

February 1, 2018



Michael L. West
Circuit Judge

APPENDIX C

Medical Expert Affidavits

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

TERRY CEASOR,

Petitioner,

CASE NO. 08-13641

v.

HON. JOHN O'MEARA
MAG. PAUL J. KOMIVES

JOHN OCWIEJA, Warden
Jackson Cooper Street Facility

Respondent.

Affidavit of Dr. John Plunkett

1. My name is John Plunkett. My address is 13013 Welch Trail, Welch, MN 55089. I am a forensic pathologist and am board certified in forensic, anatomical, and clinical pathology. Forensic pathology is the subspecialty of anatomic pathology that studies the cause of injury and/or death. I graduated from the University of Minnesota Medical School in 1972. I completed my post-graduate training (general internship, residencies in anatomical and clinical pathology, and fellowship in forensic pathology) in 1978.
2. I have practiced forensic, anatomic, and clinical pathology in a hospital setting and as the appointed Coroner (now Medical Examiner) for the area surrounding Hastings, Minnesota. Since retiring from hospital duties in December 2004, I have continued to write, lecture, sponsor continuing medical education courses, and consult on cases involving infant injury. In cases in which the injuries appear to be accidental or nontraumatic rather than abusive, I provide this information and, if necessary, testify on my findings.
3. I developed a particular interest in pediatric head injury in the 1990s and have published several articles on this subject in peer-reviewed journals. These articles include *Fatal Pediatric Head Injuries Caused by Short-Distance Falls* (2001); *A Biomechanical Analysis of the Causes of Traumatic Brain Injury in Infants and Children* (2004), co-authored with Professor Goldsmith, Biomechanical Engineering, University of California at Berkeley; and *Resuscitation Injuries Complicating the Interpretation of Premortem Trauma and Natural*

Disease in Children (2006). I also co-authored an invited editorial for the British Medical Journal with Dr. Jennian Geddes, a leading researcher in the neuropathology of inflicted head trauma. Geddes and Plunkett, *The Evidence Base for Shaken Baby Syndrome: We Need to Question the Diagnostic Criteria* (2004). Complete citations are included in my curriculum vitae, which is attached as Exhibit 1.

Medical review: Brenden Genna

4. I have been asked to review the medical records for Brenden Genna and have done so on a *pro bono* basis. It is my understanding that the defense did not retain an expert to evaluate the State's claim that the child's brain injury (a concussion) was caused by shaking or shaking/impact rather than a fall from a couch onto the floor or coffee table. Since my name was in the defense counsel's file and references to my work were made during trial, I have been asked to summarize the testimony that I would have given had I been asked to review the case and/or testify at trial.
5. If I had been asked to review this case, I would have obtained complete medical records, including hospital records, radiology images, prenatal and birth records, pediatric records and caretaker reports. If I were not able to take the case due to other commitments, I would have provided defense counsel with information on the literature and strongly advised the retention of an expert to advise on the medical and biomechanical issues and, if necessary, to testify at trial.
6. In preparing this report, I have reviewed the following records:
 - Port Huron hospital records dated October 3, 2003, including admission, progress, discharge, radiology, and laboratory reports.
 - Detroit Medical Center (Children's) hospital records dated October 3-8, 2003, including admission, discharge, and progress reports.
 - Police and CPS reports, including interviews with Dr. Hunt and a nurse at Port Huron, Cheryl Genna (the child's mother), Terry Ceasor, and Brenden's biological father.
 - Pediatric records.
 - Testimony by Dr. Christopher Hunt, the E.R. doctor who treated Brenden at Port Huron, and Dr. Holly Gilmer-Hill, a pediatric neurosurgeon at Children's.
7. These records do not include key documents, including the radiology images; scene photographs; and radiology reports, lab reports, ophthalmology reports, and discharge summary from Children's. Prenatal and birth records are unavailable, and the caretaker reports contain little information on the 72 hours before the child's collapse, including a reported fall at daycare two days earlier. Since there is considerable disagreement on the radiology (addressed below), I recommend that the radiology images be re-read by a pediatric neuroradiologist. In addition, the scene photographs should be reviewed by a biomechanical engineer who can reconstruct the incident in light of established injury thresholds.

Conclusion

8. The medical records establish that Brenden Genna had a concussion with temporary loss of consciousness consistent with a fall from a sofa onto the floor and/or coffee table, with recovery within an hour or so of the incident. There is no medical evidence to support the claim that Mr. Ceasor caused the child's collapse by shaking or shaking/impact.
9. Since the State's case was based on the radiology images and the biomechanics of shaking and impact, it would have been critical to review the radiology and the biomechanical and medical literature on concussions and short falls. It is my understanding that trial counsel did not obtain a review of the radiology or medical records prior to trial. It is my further understanding that trial counsel consulted with Professor Faris Bandak, a biomechanical engineer, but did not retain him or any other expert to address the biomechanical issues.
10. A review of the records and expert testimony establishes that Mr. Ceasor's conviction was based on a misunderstanding of the medical and biomechanical literature. For example, Dr. Gilmer-Hill, the State's lead witness, testified that studies by Dr. Duhaime, a neurosurgeon, found that the force from shaking far exceeds the force from a short fall. In fact, the Duhaime study, which was conducted in conjunction with biomechanical engineers at the University of Pennsylvania, found the opposite: in her 1987 study, Dr. Duhaime and her colleagues found that *impact generated forces nearly 50 times the forces generated by shaking*. Dr. Gilmer-Hill's testimony on the medical issues was also inconsistent with the literature. For example, Dr. Gilmer-Hill testified that a CT scan showed that Brenden's subdural hemorrhage was acute and was therefore no more than 6-12 hours old. However, an acute hemorrhage on CT scan may be up to 5-7 days old. Dr. Gilmer-Hill also testified that the child's collapse would have immediately followed injury. However, the medical literature reports time lags of up to 72 hours between injury and collapse.
11. In this affidavit, I summarize the medical reports and expert testimony and briefly describe some of the major changes in the literature on shaking or shaking/impact that have occurred over the past decade, with emphasis on the literature available at the time of Mr. Ceasor's trial in December 2005. I also address the relevant concussion literature.

Medical history

12. *Prenatal and birth records.* I do not have Brenden's prenatal or birth records. However, his pediatric records indicate that it was a vaginal birth and that the child was one week overdue, with a birth weight of 7 lbs 3 oz. The records indicate that he had a low body temperature and heart rate. As of September 20, 2004 (approximately 2 weeks before the incident), a medical exam showed that Brenden was 33 inches tall and weighed 27 pounds, 5 ounces.
13. *Pediatric records.* The May 22, 2003 pediatric report (age one week) shows a head circumference in the 25th percentile. In June and September 2003, his head circumference had increased to the 75th percentile. On September 20, 2004, two weeks before his collapse, his head circumference was in the 85th percentile. This reported increase in head circumference suggests that the child may have had a chronic (old) subdural hemorrhage,

- possibly birth-related, or benign extraaxial collections of infancy (cerebral spinal fluid or CSF), which would have predisposed him to subdural hemorrhage spontaneously or from minor impact.
14. The pediatric records indicate that the child had plagiocephaly (abnormally flattened skull), possible minor developmental delays (e.g., speech), and a history of cough, runny nose and other respiratory diseases, for which he took Pediacare, a children's cough and cold medicine that contained pseudoephedrine and dextromethorphan. In October 2007, these ingredients were withdrawn for children under age 2 due to an association with sudden death in this age group.
 15. *Caretaker reports.* At the time of Brenden's concussion, Brendan's mother, Cheryl Genna, and Mr. Ceasor had been dating for several months. Ms. Genna had two children, a 6 year old daughter, and Brenden, age 16 months. Mr. Ceasor had custody of his son, who was 11 years old. There are no reported prior concerns with abuse or neglect.
 16. There are virtually no caretaker reports for Brenden for the 72 hours prior to his collapse, but I am told that Ms. Genna testified that Brenden had a fall at daycare two days earlier. This is within the time range in which head injuries may become symptomatic. The concussion literature also makes clear that a second impact that follows a prior impact that has not yet fully resolved may produce a concussion or more serious consequences, even when both impacts are minor.
 17. The records indicate that on the day before hospital admission, Brenden was taking "Tylenol Cold," one of the children's cough and cold medicines that was later removed from the shelves. While his symptoms may have been related to the mastoid (ear/sinus)infection suggested in a CT scan, it is also possible that he was showing nonspecific signs of head injury (e.g., lethargy or irritability), which can be mistaken for a cold or minor illness.
 18. *Day of collapse (Oct. 3, 2003).* According to the police reports, at around 2:45 on October 3, 2003, Ms. Genna took her 6 year old daughter swimming while Brenden stayed with Mr. Ceasor. Mr. Ceasor reported that he was playing "gotcha" with Brenden on the couch, left to go to the bathroom, and heard a thud. He said he found Brenden unresponsive on the floor by the couch and thought he had hit the coffee table, which is described in the police reports as a heavy table with steel legs positioned approximately 12" from the couch. This reportedly occurred between 4 and 4:15.
 19. According to Mr. Ceasor, he was about to call 911 when the mother returned home. They immediately drove the child to Port Huron Hospital, arriving at 4:20.
 20. At the hospital, the mother told the police that she was at home in another room when Brenden apparently fell off the couch. Mr. Ceasor agreed. A few days later, the mother told the police that she was not at home but had said she was at home because she was afraid that child services would remove her children if she had left Brenden alone with a

non-family member. In a subsequent interview, Mr. Ceasor confirmed that he was alone with Brenden at the time of the incident. All other information remained the same.

Hospital records: Port Huron (Oct. 3, 4:20 – 7:28 p.m.)

21. The admission notes indicate that Brenden arrived at Port Huron hospital at 4:20 p.m. On arrival, he was not in respiratory distress and had no obvious head injury, but was unresponsive and had unequal pupils. At 4:35, he was arousable to verbal stimuli but was not following objects. By 5:15, he was alert, tracking objects with his eyes and following simple commands. By then, his pupils were equal and reactive. At 5:45, his Glasgow Coma Scale was 15 (normal).
22. *Laboratory reports.* The laboratory reports from blood drawn at 4:52 p.m. show high glucose, abnormal ALT/AST, a slightly high WBC, high platelets (740), slight microcytosis, and high monos. These results are consistent with stress and/or infection.
23. *CT scan: 5:28 p.m.* The Port Huron radiology report describes a moderate size collection of blood on the right, 5 mm thick, thought to be subdural in nature, with no fractures or soft tissue swelling. The radiologist did not attempt to age this collection. The report indicates that due to plagiocephaly it was hard to determine whether there was a midline shift (shift of the brain to one side due to brain swelling or hemorrhage) but that there was felt to be mild to moderate mass effect (possible swelling within the brain) with some effacement of the right ventricle. There was fluid in the mastoid on the right compatible with infection. There were no noted intraparenchymal abnormalities, *i.e.*, hemorrhages or other abnormalities within the brain tissue.
24. The child was discharged for transport to Children's Hospital at 7:28 p.m.
25. The Port Huron records indicate that Brenden had a concussion with an immediate loss of consciousness that resolved quickly. In children, concussions are typically caused by accidental impact, such as household falls. There is no evidence of abuse or inflicted injury in the Port Huron records.

Hospital records: Children's Hospital

26. *October 3.* The admission records indicate that Brenden arrived at Children's at 9 p.m. and that he had vomited during transport. Vomiting is often associated with concussion. The principal admission diagnosis was subdural hemorrhage after injury, with brief unconsciousness and no open intracranial wound. Secondary diagnoses included convulsions, retinal hemorrhage, and redness around the mouth. The basis for the diagnosis of convulsions is unclear since no convulsions are noted in the hospital records that I have reviewed.
27. A handwritten admission note from Children's indicates that Brenden had a Glasgow Coma Scale (GCS) of 5 at Port Huron, which would indicate coma. However, the only reference to a GCS in the records I have seen indicates that the child had a GCS of 15 (normal)

approximately an hour and a half after admission, suggesting that the handwritten note may have been a recording error.

28. October 4. A 5 a.m. progress report notes bruising on the child's forehead with no other marks on the body. The child was awake and alert and had vomited twice. There was no seizure activity. The mother and father (presumably Mr. Ceasor) were cooperative and asked appropriate questions.
29. A 9:30 a.m. progress note by Dr. Gilmer-Hill, a pediatric neurosurgeon, states that the Port Huron CT scan showed an acute right subdural hemorrhage with midline shift and diffuse edema. This report differs from the Port Huron radiology report on the same CT scan in two respects. First, Dr. Gilmer-Hill dates the subdural collection, describing it as acute, which would indicate that it is likely between 3 hours and 5-7 days old. Second, unlike the Port Huron radiologist, who could not determine whether there was a midline shift due to plagiocephaly and who saw no definite abnormalities within the brain, Dr. Gilmer-Hill describes a midline shift (movement of the brain to one side due to substantial hemorrhage or brainswelling) and diffuse edema (swelling within the brain). In my experience, the child's rapid recovery is inconsistent with diffuse brainswelling and a midline shift. Dr. Gilmer-Hill did not note the fluid in the mastoid.
30. Dr. Gilmer-Hill's notes indicate that a second CT taken at Children's on the morning of October 4 showed a resolution of the hemorrhage with continued edema. A 10:50 a.m. progress note by another neurosurgeon states that the second CT showed minimal subdural hemorrhage and less mass effect. The Children's radiology reports and images are not available.
31. A skeletal survey was negative for fractures but showed a fibrotic benign appearing nontraumatic area in the left humerus (upper arm).
32. At 1 p.m., the ophthalmology exam was postponed when the attending physician instructed that the eyes not be dilated. A 3 p.m. note indicates that the pupils were equal, round and reactive to light. The ophthalmology report and photos are not available.
33. October 5. Mannitol (a medication for brainswelling) was discontinued early on October 5. At 9:10 a.m., a child protection team note mentions dot/blot/flame retinal hemorrhages. These retinal hemorrhages are nonspecific for cause and timing and generally resolve of their own accord.
34. A 4:55 p.m. note indicates that child protective services would interview the parents in the morning and petition the court for termination of parental rights. The biological father was in the process of establishing paternity.
35. October 7. When the hospital told the mother that this was shaken baby syndrome, the mother reported that Mr. Ceasor had been alone with the child (see above). She also reported that she and other family members had seen a red mark about the size of a 50 cent

- piece on the back of Brenden's head at the hospital, which may have represented a site at which Brenden hit his head. There does not appear to be any follow-up on this observation.
36. *Laboratory and radiology reports.* The Children's records that I have received contain no laboratory reports and no radiology reports or images. In cases involving hemorrhage, the records should include laboratory tests for bleeding disorders, metabolic disease, and vitamin or nutritional deficiencies that would make the child more prone to hemorrhage. The radiology reports and images should also be included.
37. *October 8: discharge.* The hospital records confirm that Brenden had no significant symptoms at Children's. However, his discharge was postponed pending investigation by the sheriff and child protective services. On October 8, Brenden was discharged with no medications other than over-the-counter Tylenol or ibuprofen, with follow up to be scheduled with a neurosurgeon. I have not received any follow-up reports.
38. The Children's records indicate that Brenden had a short term concussion consistent with a fall from a couch. There is nothing in the hospital records suggesting that he was shaken or abused.

Pre-trial testimony

39. At a pretrial hearing, Dr. Gilmer-Hill confirmed that Brenden was awake, alert and responding appropriately when he arrived at Children's and that he did not require medical treatment. She also confirmed that there were no fractures, contusions, or signs of trauma to the scalp, skull, or brain.
40. *Port Huron CT scan.* Dr. Gilmer-Hill testified that the Port Huron CT scan showed 8-10 mm thick frontal *bilateral* subdural hemorrhages (*i.e., hemorrhages on the left and right*), with some midline shift and soft tissue swelling over the right parietal scalp. This testimony differs from the Port Huron radiology report, which described a 5 mm collection *on the right*, with no noted soft tissue swelling or definite midline shift. Her pretrial testimony differed from her hospital notes, which described a subdural hemorrhage *on the right*, with a midline shift but no soft tissue swelling. These inconsistencies should have been addressed in an independent review of the images prior to trial.
41. *Children's CT scan.* Dr. Gilmer-Hill testified that the CT scan taken at Children's the following morning showed decreased blood, *smaller on the right but very visible on the left*. This is inconsistent with her hospital notes, which indicate that this CT scan showed *a resolution of the hemorrhage*. Her partner's notes indicate that the 2nd CT scan showed minimal subdural hemorrhage and less mass effect. Neither set of notes mentioned soft tissue swelling. However, absence of soft tissue scalp swelling is still consistent with head impact from a fall.
42. It is not possible to resolve the inconsistencies between Port Huron radiology report, the Children's hospital notes and Dr. Gilmer-Hill's pretrial testimony without reviewing the images. These inconsistencies should have alerted defense counsel that it would be

essential to obtain the images and the Children's radiology reports so that they could be reviewed by a pediatric neuroradiologist.

43. Dr. Gilmer-Hill testified that the child had a GCS of 5 (coma) at Port Huron and that the child had had seizures, indicating a more serious injury than falling off a couch. However, the Port Huron records do not mention a GCS of 5, and there are no reported seizures in the hospital records. These inconsistencies should also have been addressed before trial.
44. Dr. Gilmer-Hill testified that a subdural hematoma is a serious injury, that it would be rare to get a subdural hemorrhage from a fall off a couch, and that the mechanism for subdural and retinal hemorrhage is violent shaking, either shaken baby syndrome (SBS) or shaken/impact syndrome. She testified that SBS refers to nonaccidental injury, usually shaking with some impact, such as striking, slamming or throwing, and that at 18 months, injuries are more likely to involve impact, such as a blow or slamming. She acknowledged, however, that the symptoms of shaking do not necessarily differ from any other closed head injury. She said that medical residents see many SBS cases, and that the hallmark is any kind of brain hemorrhaging, typically subdural hemorrhage, frequently with skull fracture and/or seizures and possibly with retinal hemorrhage. She also testified that retinal hemorrhages are diagnostic of shaking or shaking/impact in the absence of a massive accident or coagulopathy (bleeding disorder), which was ruled out by laboratory tests.
45. As discussed in more detail below, there is no evidentiary basis for Dr. Gilmer-Hill's claims that subdural and retinal hemorrhages are serious injuries caused by shaking or intentional impact. The biomechanical and forensic literature makes clear that shaking is an unlikely cause for subdural or retinal hemorrhages; that it is not generally possible to distinguish between accidental and intentional impact; and that subdural and retinal hemorrhages may result from accidental impact or a wide array of natural causes.
46. At the end of the pretrial hearing, Mr. Ceasor's attorney stated that the trial would be "expert against expert." However, it appears that Mr. Ceasor's attorneys did not retain an expert and that no defense expert testified at trial. Instead, the expert evidence consisted entirely of the State's evidence, much of which was contrary to the medical records and literature.

Trial testimony

47. At trial, Dr. Christopher Hunt, the E.R. doctor from Port Huron Hospital, and Dr. Gilmer-Hill testified on behalf of the State.

Testimony by Dr. Hunt

48. Dr. Hunt confirmed that, on admission, Brenden had stable vital signs and was breathing on his own, with no respiratory distress or signs of trauma. He testified that Brenden was initially unresponsive to stimuli but became responsive after the CT scan. He did not recall any seizure-like activity.

49. Dr. Hunt testified that the CT scan showed a subdural hematoma with some slight mass effect, which he attributed to the subdural hemorrhage pushing the brain to one side (*i.e.*, a midline shift). For preventative purposes, Brenden was treated with dilantin (to prevent seizures), mannitol (to reduce pressure on the brain), and intubation (to prevent respiratory difficulties).
50. Dr. Hunt testified that a subdural hematoma is most commonly seen in a fall where you “hit your head.” However, he felt that 16 month olds don’t typically fall, and that it would be very strange for a 16 month old to fall off a couch and get a subdural hematoma without external signs of trauma. He agreed that bruising does not necessarily occur immediately after a fall and did not know that the Children’s notes mentioned bruising on the forehead.
51. Dr. Hunt associated the lack of external bruising with shaken baby syndrome. He mentioned that he had training in shaken baby syndrome, but he did not diagnose it or discuss the advances in this field over the past decade. In an earlier police report, he stated that he was not an expert in this area.
52. I do not agree that it is unusual for a 16 month old to fall off a couch or to get a concussion, with or without subdural hemorrhage, irrespective of whether there are external signs of trauma. In this case, the forehead bruising noted in the hospital chart is consistent with a fall but is not necessary to the diagnosis.
53. Dr. Hunt testified that Mr. Ceasor initially said Brenden had fallen off a couch and hit his head on a table but later said he didn’t know how it occurred. Dr. Hunt viewed this as a change in the story. However, the reports indicate that Mr. Ceasor consistently said that he was out of the room when he heard a thump and that he found the child between the couch and the coffee table, in a position suggesting that he may have hit his head on the coffee table and/or floor. Since no one was in the room at the time, it is not possible for anyone, including Mr. Ceasor, to determine precisely how the fall occurred. However, Brenden’s concussion and subsequent recovery are consistent with a fall from a couch onto a coffee table or floor.

Testimony by Dr. Gilmer-Hill

54. At trial, Dr. Gilmer-Hill confirmed that when she saw Brenden at Children’s at 9:30 a.m. on October 4, he was awake, alert and had no external bruising, scalp swelling, or other outward signs of trauma. On October 5, Dr. Sood, Dr. Gilmer-Hill’s partner, eliminated Mannitol, a medication for brainswelling. When Dr. Gilmer-Hill saw Brenden on October 6, he was alert, neurologically intact, and playful, and did not require treatment.
55. *Port Huron CT scan.* Dr. Gilmer-Hill testified that the Port Huron CT scan showed some blood, brainswelling and a midline shift, indicating a serious injury. She further testified that the blood on the Port Huron CT scan was “fresh” or acute and therefore occurred within 6-12 hours before the scan. CT scans do not, however, date hemorrhages with this degree of precision. Hemorrhages that appear “bright” or acute on CT may be up to 7-10 days old.

56. Dr. Gilmer-Hill testified that while a child may be asymptomatic and act normally for several hours after injury, the time period in this case could be limited to the period between 3 and 4 p.m. since that is when the child became symptomatic. As discussed below, however, a child may not show significant symptoms for up to 72 hours after injury.
57. Dr. Gilmer-Hill testified that the “lucid interval” refers to subdural hematoma, not subdural hematoma *and* retinal hemorrhage. However, there is no literature suggesting that there cannot be a lucid interval after retinal hemorrhages, which are typically asymptomatic and cannot be dated.
58. Dr. Gilmer-Hill testified that subdural hemorrhage, brain swelling and midline shift are seen in accidents such as falls from second story buildings or high speed motor vehicle accidents and cannot be caused by an accidental injury such a fall from a couch onto a carpeted floor. However, one of the cases in my 2001 study is a videotaped recording of a toddler who fell approximately 28” from an indoor play structure onto a carpeted floor. The child initially appeared to be okay, but then collapsed and died from a large subdural hemorrhage. She also had bilateral retinal hemorrhages. Other short falls resulting in subdural hemorrhage and/or concussion are recorded in the literature and replicated in biomechanical studies.
59. Dr. Gilmer-Hill testified that she could not say with certainty that Brenden did not have a subdural hematoma prior to falling off the couch, and that it is possible that the subdural hemorrhage caused the child to fall. She testified that a chronic (old) subdural can spontaneously rebleed from a membrane but that you would then see old and new blood in the subdural. Since, however, CT scans do not distinguish between hemorrhages that are up to 7-10 days old, a CT scan of a child who has had two or more impacts within a week would simply show acute blood.
60. *Retinal hemorrhage.* Dr. Gilmer-Hill testified that ophthalmology exams on October 5 and 6 identified bilateral retinal hemorrhages but that she did not know their ages or size. An Oct. 5 ophthalmology report by Dr. Klein is mentioned but is not available. Dr. Gilmer-Hill testified that it takes a great deal of force to cause retinal hemorrhages and that retinal hemorrhages can only be caused by being shaken or slammed on hard or soft surfaces, usually repeatedly. She also testified that retinal hemorrhages generally involve impact, such as being struck, slammed down on a sofa or soft surface, or thrown against a wall or up against a ceiling.
61. Dr. Gilmer-Hill’s testimony is contrary to the literature, which establishes that there are many causes for retinal hemorrhages, which are found in approximately 35% of newborns. Other causes include hypertension, infection, anemia, glutaric aciduria I, vitamin C deficiency and/or thrombophilia. At autopsy, retinal hemorrhages are found in a wide array of natural deaths. While some believe that abusive head trauma can be inferred from the size and shape of retinal hemorrhages (*e.g.*, multi-layered retinal hemorrhages that extend to the periphery), there is as yet no evidentiary basis for this hypothesis. In this case, there is no claim that Brenden’s retinal hemorrhages were large or multi-layered.

62. *Fractures and bruising.* Dr. Gilmer-Hill confirmed that the radiology showed no fractures, and that the Children's nursing notes and diagram showed bruising to the forehead as well as redness around the mouth.
63. *Lab reports.* Dr. Gilmer-Hill testified that elevated platelets showed that the child did not have a bleeding disorder. Elevated platelets are, however, signs of infection or stress and do not provide any information on congenital or nutritional abnormalities that affect the propensity to bleed. None of the Children's lab reports is contained in the available records.
64. *Seizures.* Dr. Gilmer-Hill testified that her diagnosis of seizures was based on a Port Huron report of unequal pupils. Unequal pupils are, however, also a sign of concussion.
65. *Discharge.* Dr. Gilmer-Hill testified that Brenden did not require any medications after discharge but that there might be long-term sequelae. In most instances, however, children recover from concussions without adverse consequences.
66. *Shaken baby syndrome.* Dr. Gilmer-Hill testified that shaken baby syndrome involves violent shaking of a child, generally under age 2, causing the brain to slam back and forth and a bridging vein to tear, and resulting in a subdural hematoma. She testified that one usually sees SBS in children six months and under who can't support their heads, that one might need more force for a 16 month old, and that one doesn't always see bruising but frequently sees fractures, often in varying stages of healing. In diagnosing shaken baby syndrome, Dr. Gilmer-Hill looks for subdural and retinal hemorrhage with an inconsistent history or changing story.
67. Dr. Gilmer-Hill testified that she had personally seen about 15 SBS cases in 2005 and had testified approximately 30 times (10 times in 2005), all but once on SBS. However, she was not familiar with developments in the literature on shaken baby syndrome and pediatric head injury, which falls within a number of disciplines, including forensic pathology, neuropathology, Neuroradiology, and biomechanics. Instead, she testified that she limits her reading to neurosurgical journals and relies exclusively on the American literature. Even so, she misunderstood the Duhaime study, which is the key American neurosurgical study on shaking.
68. The trial transcript indicates that Dr. Gilmer-Hill's testimony was the sole basis for Mr. Ceasor's conviction. The transcript indicates that the jury played the videotape of this testimony, which was 1 hour and 20 minutes in length, in its entirety, and I understand that they replayed a portion of the tape. The jury therefore heard this testimony three times, with no rebuttal.

History of Shaken Baby Syndrome

69. It is not possible to understand the testimony in this case without understanding the history of shaken baby syndrome (SBS). In the 1970s, shaking was proposed as a mechanism of

injury in children who had subdural hemorrhage, retinal hemorrhage and/or brain swelling with no signs or history of trauma.

70. The first serious challenge to this theory occurred in 1987 with the publication of a study by Dr. Duhaime, a neurosurgeon. In this study, which was published in the Journal of Neurosurgery, Dr. Duhaime and biomechanical engineers at the University of Pennsylvania used models of 1-month-old infants with neck and skull accelerometers that were shaken and impacted against padded surfaces and metal bars. *The forces from shaking fell below established injury thresholds, while the forces from impact spanned the injury thresholds for concussion, subdural hemorrhage and diffuse axonal injury.* Repeated violent shaking produced forces of approximately 1/50 the force of impact against padded or unpadded surfaces. The researchers concluded that “severe head injuries commonly diagnosed as shaking injuries require impact to occur and that shaking alone in an otherwise normal baby is unlikely to cause the shaken baby syndrome.”¹
71. Despite this study, which has been repeatedly replicated by biomechanical engineers, SBS theory remained popular, and many doctors, including pediatricians and emergency room doctors, continued to testify that the “triad” of subdural hemorrhage, retinal hemorrhage and brain swelling was diagnostic (or even pathognomonic) of violent shaking, causing rupture of bridging veins and traumatic injury to the axons in the brain.
72. Forensic pathologists, who specialize in determining the cause of injury, and biomechanical engineers, who look at injuries caused by the application of mechanical forces to living tissue, were more skeptical. Obvious problems with the theory included the failure to meet established injury thresholds and the absence of neck injury in allegedly shaken children.
73. Because of the popularity of this theory, the Board of Directors of the National Association of Medical Examiners (NAME), the professional association for forensic pathologists, commissioned a position paper on shaken baby syndrome in approximately 1998. The paper, which was largely written by Dr. Mary Case, a proponent of shaking theory, was rejected by four out of five peer reviewers due to the lack of scientific support. Because it did not pass peer review, it was published as an individual opinion piece in 2001. Following its publication, leading forensic pathologists, including Michael Baden, Cyril Wecht, Vincent diMaio and John Smialek, continued to question or reject SBS theory.
74. Although doctors often testified that the symptoms of pediatric head injury would be drastic and immediate, the limited evidence available suggested that the timing parameters encompass a period of at least 72 hours.² This is consistent with general head injury guidelines and instructions given by hospitals to parents whose children have experienced minor head injuries.
75. In 2001, my article on short falls questioned another element of the established wisdom on shaken baby syndrome. At that time, many doctors were testifying that short falls (often defined as falls from less than several stories) could not be fatal, did not result in lucid intervals, and did not produce retinal hemorrhages. To examine these hypotheses, I looked at fatal falls reported to the Consumer Protection Safety Commission, including a

videotaped fatal short fall by a toddler who fell from a 28” high plastic indoor play structure onto a carpeted floor. Most of the falls were witnessed, and all of the children had intracranial hemorrhages of a type commonly attributed to shaking or abuse. In addition, many had lucid intervals, and several (including the child who fell from the indoor play structure) had retinal hemorrhages.³

76. At about the same time, in Great Britain, Dr. Jennian Geddes published the first neuropathology studies on abusive head trauma in infants. Prior to these studies, it was widely believed that shaking caused traumatic tearing of axons throughout the brain (diffuse axonal injury, or DAI) and traumatic tearing of bridging veins, causing subdural hemorrhage. Dr. Geddes and her colleagues found that the brains of allegedly shaken or abused babies did not show DAI but instead showed hypoxic-ischemic injury, *i.e.*, lack of oxygen to the brain, which has many causes. They also found that thin subdural hemorrhages of the type often found in allegedly shaken or abused babies were also found in a control group, including newborns that had died natural deaths.⁴
77. By 2002, even the most ardent SBS supporters recognized that there are many alternative diagnoses for medical findings previously attributed to shaken baby syndrome or abusive head trauma. These alternative diagnoses include accidental trauma; medical interventions; prenatal, perinatal and pregnancy-related conditions; birth trauma; metabolic diseases; congenital malformations; genetic, oncologic or infectious disease; autoimmune disorders; clotting disorders; toxins; and other miscellaneous conditions. Rebleeds and second impact injuries were also recognized.⁵
78. By 2003, a review article published in the official NAME journal confirmed that shaken baby syndrome did not meet the standards of evidence-based medicine but was instead based on poor quality evidence, largely anecdotal in nature.⁶ Since then, the differential diagnoses (alternative causations) for subdural and retinal hemorrhages have continued to expand. For example, a 2006 text by leading SBS proponents includes an entire chapter on alternative medical causes for subdural and retinal hemorrhages.⁷ At the same time, biomechanical studies confirmed that the forces of impact, including short falls, are much greater than the forces of shaking, and that shaking is an unlikely cause of subdural and retinal hemorrhages, particularly in the absence of serious neck injury.⁸ It is also now widely acknowledged that retinal hemorrhages can arise from many causes, including natural disease processes.⁹
79. These developments are slowly being reflected in the legal and medical systems. In 2005, the English Court of Appeals ruled that the “triad” of subdural hemorrhage, retinal hemorrhage and brain swelling can no longer be accepted as diagnostic of child abuse.¹⁰ In October 2006, NAME withdrew its position paper on shaken baby syndrome,¹¹ and in January 2008, the Wisconsin Court of Appeals granted a new trial to Audrey Edmunds, who had been convicted of reckless homicide based on shaken baby syndrome, citing developments in the literature on pediatric head injury.¹² Later that year, the Goudge Inquiry in Ontario, Canada found that there was a lack of evidentiary basis (and often clear alternative diagnoses) for many diagnoses of child abuse, including several shaken baby convictions. As a result, the province of Ontario is reviewing all SBS convictions using

international panels of experts.¹³ In May 2009, the American Academy of Pediatrics advised pediatricians to refrain from using the term “shaken baby syndrome” and to look at alternative causes before diagnosing abuse.¹⁴

80. As the history of SBS makes clear, Dr. Gilmer-Hill’s testimony that Brenden’s concussion and minor hemorrhages could only be caused by violent shaking or shaking/impact was contrary to the literature and research in this area.

Concussion literature

81. In this case, the medical records and caretaker reports indicate that Brenden’s concussion followed a fall from a couch onto the floor or coffee table. The applicable literature is therefore the concussion literature, not the shaken baby literature.
82. A review article in the New England Journal of Medicine defines “concussion” as an immediate and transient loss of consciousness after a blow to the head, accompanied by a brief period of amnesia.¹⁵ The article notes that “[t]his event is so common, affecting about 128 people per 100,000 in the United States yearly, that almost all physicians are called on at some time to provide care at the scene or to treat the sequelae of concussion.” Young children have the highest rates of concussion. Under the imaging guidelines, CT or MRIs should be ordered for all children and for all cases involving vomiting and/or “dangerous mechanisms,” including falls from about 3 feet. This article also addresses delayed symptoms and second impacts.
83. The concussion literature identifies grades of brain injury caused by falls or other impact. Under Ommaya’s classification, which has six grades, Brenden had a Grade III concussion (coma less than 6 hours with classic cerebral concussion, minor to moderate head injury, abnormal CT/MRI scans, and diffuse lesions and/or intracranial bleeding, including acute subdural clots). Immediate posttraumatic coma is most commonly associated with falls or motor vehicle accidents. The consequences of a fall depends on the mechanical characteristics of the fall; pre-traumatic factors, including age, physiological characteristics and prior falls; and specific biological responses and systemic interactions.¹⁶ In this case, the child was young and the hemorrhage and brain edema (if present) were small, allowing rapid recovery.
84. I have attached short summaries on concussion from the National Institutes of Health and the American Association of Neurological Surgeons.¹⁷ As noted in these articles, concussions are common and are often caused by falls around the home, especially among toddlers. Symptoms of concussion, which range from minor to severe, include repeated vomiting, unequal pupils, varying levels of consciousness and the inability to wake up (coma). Concussions may be accompanied by intracranial bleeds, even in the absence of external trauma.
85. Brenden Genna’s medical findings and the course of his hospitalization fit all of the criteria set forth in the concussion literature.

Conclusions

- 86. The medical records confirm that Brenden Genna had a Grade III concussion with short term loss of consciousness followed by recovery within an hour or so of the incident. His concussion is consistent with a fall from a couch onto a coffee table and/or floor. There is no evidence of shaking or inflicted trauma.
- 87. I am willing to review the complete medical files when they become available. Given the inconsistencies in the radiology reports, the radiology images should be re-read by Dr. Patrick Barnes, a Professor of Radiology at Stanford University and Chief of Pediatric Neuroradiology at Lucile Salter Packard Children’s Hospital. Dr. Barnes has considerable expertise in pediatric head injury and is a member of various child abuse teams and task forces.
- 88. From a forensic perspective, the failure to retain an expert to review the medical records and to testify on the applicable literature, including the concussion and biomechanical literature, establishes that Mr. Ceasor was not adequately represented at trial.

I swear under penalty of perjury that the foregoing is true and correct.

John J. Plunkett, M.D.

Subscribed and sworn to before me this ____ day of _____, 2010.

Notary Public in and for the
State of Minnesota

My commission expires: _____

¹ Duhaime et al, *The shaken baby syndrome: A clinical, pathological and biomechanical study*, J. Neurosurg. 66:409 (1987)

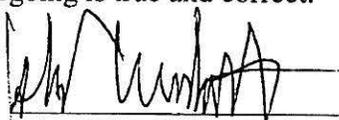
² *Interval Duration between Injury and Severe Symptoms in Non-accidental Head Trauma in Infants and Young Children*, Gilliland, MGF, J. For. Sci. 43(3):723-725 (1998); see also *Delayed Sudden Death in an Infant Following an Accidental Short Fall*, Denton and Mileusnic, Am. J. For. Med. and Path. 24(4):371-376 (2003).

³ Plunkett, J., *Fatal Pediatric Head Injuries Caused by Short-Distance Falls*, Am. J. For. Med. & Path. 22(1):1-12 (2001)

Conclusions

- 86. The medical records confirm that Brenden Genna had a Grade III concussion with short term loss of consciousness followed by recovery within an hour or so of the incident. His concussion is consistent with a fall from a couch onto a coffee table and/or floor. There is no evidence of shaking or inflicted trauma.
- 87. I am willing to review the complete medical files when they become available. Given the inconsistencies in the radiology reports, the radiology images should be re-read by Dr. Patrick Barnes, a Professor of Radiology at Stanford University and Chief of Pediatric Neuroradiology at Lucile Salter Packard Children's Hospital. Dr. Barnes has considerable expertise in pediatric head injury and is a member of various child abuse teams and task forces.
- 88. From a forensic perspective, the failure to retain an expert to review the medical records and to testify on the applicable literature, including the concussion and biomechanical literature, establishes that Mr. Ceasor was not adequately represented at trial.

I swear under penalty of perjury that the foregoing is true and correct.



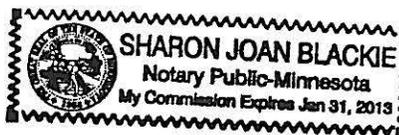
 John J. Plunkett, M.D.

Subscribed and sworn to before me this 26th day of January, 2010.



 Notary Public in and for the
 State of Minnesota

My commission expires: 1/31/13



¹ Duhaime et al, *The shaken baby syndrome: A clinical, pathological and biomechanical study*, J. Neurosurg. 66:409 (1987)

² *Interval Duration between Injury and Severe Symptoms in Non-accidental Head Trauma in Infants and Young Children*, Gilliland, MGF, J. For. Sci. 43(3):723-725 (1998); see also *Delayed Sudden Death in an Infant Following an Accidental Short Fall*, Denton and Mileusnic, Am. J. For. Med. and Path. 24(4):371-376 (2003).

³ Plunkett, J., *Fatal Pediatric Head Injuries Caused by Short-Distance Falls*, Am. J. For. Med. & Path. 22(1):1-12 (2001)

⁴ Geddes et al, *Neuropathology of inflicted head injury in children I: Patterns of brain damage*, Brain 124:1290-98 (2001); Geddes et al, *Neuropathology of inflicted head injury in children II: Microscopic brain injury in infants*, Brain 124:1299-1306 (2001).

⁵ Hymel et al, *Intracranial Hemorrhage and Rebleeding in Suspected Victims of Abusive Head Trauma: Addressing the Forensic Controversies*, Child Maltreatment 7(4):329-348 (2002); see also Barnes, P, *Ethical Issues in Imaging Nonaccidental Injury: Child Abuse*, Topics in Magnetic Resonance Imaging 13(2):85-93 (2002).

⁶ Donohoe, M. *Evidence-Based Medicine and Shaken Baby Syndrome Part I: Literature Review, 1966-1998*, J. For. Med. and Path., 24(3):239-242 (2003); see also Reece and Nicholson, Eds., *Inflicted Childhood Neurotrauma, A Multidisciplinary, Modified, Evidence-Based Conference, sponsored by HHS, NIH, NICHD, ORD and NCMRR* (October 2002) (debate over “shaken baby syndrome” continues to rage in our country; because there is very little scientific experimental or descriptive work, the pathophysiology remains obscure and the relationship to biomechanics even cloudier; the evidence that does exist has not been subjected to evidence-based scrutiny in a multidisciplinary scientific forum).

⁷ Frasier et al, *Abusive Head Trauma in Infants and Children: A Medical, Legal and Forensic Reference, Medical disorders that mimic abusive head trauma* (Ch. 14), GW Publishing (2006); see also Barnes and Krasnokutsky, *Imaging of the Central Nervous System in Suspected or Alleged Non-accidental Injury, Including the Mimics*, Topics in Magnetic Resonance Imaging 18:53-74 (2007) (alternative causations) and Rooks et al, *Prevalence and Evolution of Intracranial Hemorrhage in Asymptomatic Term Infants*, Am J Neuroradiology (2008) (subdural hemorrhages found in nearly 50% of asymptomatic newborns)

⁸ Ommaya, Goldsmith & Thibault, *Biomechanics and neuropathology of adult and paediatric head injury*, Br. J. Neurosurgery 16(3):220-242 (2002); Goldsmith and Plunkett, *A Biomechanical Analysis of the Causes of Traumatic Brain Injury in Infants and Children*, J., Am. J. For. Med. & Pathol. 25(2):89-100 (2004); Bandak, F., *Shaken baby syndrome: A Biomechanics analysis of injury mechanisms*, For. Sci. Int'l 151:71-79 (2005). The biomechanical studies are consistent with clinical reports. Root, Irving. *Head Injuries from Short Distance Falls.*, *Am. Journal of Forensic Medicine and Pathology*, 13(1): 85-87 (1992); Reiber, Gregory. *Fatal Falls in Childhood: How Far Must Children Fall to Sustain Fatal Head Injury?*, *Am. Journal of Forensic Medicine and Pathology*, 14(3): 201-207, 1993;

⁹ Lantz, P., Wake Forest University, Presentations at the Am. Academy of Forensic Sciences, Seattle, WA (2006), San Antonio (2007); Levin, A., *Retinal Haemorrhages 2008: State of the Art*, Seventh North American Conference on Shaken Baby Syndrome (Abusive Head Trauma), Vancouver, B.C. (2008).

¹⁰ *R. v Harris et al*, EWCA 1980 (2005).

¹¹ National Association of Medical Examiners, Annual Meeting, October 2006.

¹² *State v. Edmunds*, 746 N.W.2d 590, 598-599 (Wis. Ct. App. 2008)

¹³ The Honorable Steven T. Goudge, *Inquiry into Pediatric Forensic Pathology in Ontario*, Executive Summary (October 1, 2008)

¹⁴ Press Release, *ABUSIVE HEAD TRAUMA: A NEW NAME FOR SHAKEN BABY SYNDROME* American Academy of Pediatrics, May 2009, available at: <http://www.aap.org/advocacy/releases/may09headtrauma.htm>

¹⁵ Roper, A and Gorson, K, *Concussion*, N Eng J Med 356 (2):166-172 (2007)

¹⁶ Ommaya, A.K., *Head Injury Mechanisms and the concept of Preventative Management: A Review and Critical Synthesis*, J. Neurotrauma 12(4):527-546.

¹⁷ *Concussion*, MedlinePlus, www.nlm.nih.gov/medlineplus/print/ency/article/000799.htm (2009); *Concussion, What is Neurosurgery*, www.neurosurgerytoday.org/what/patient_e/concussion.asp? (2005).

CURRICULUM VITAE

John Jerome Plunkett
 13013 Welch Trail
 Welch, MN 55089
 E-mail: plunkettj@frontiernet.net

PERSONAL:

Date of Birth:	April 15, 1947
Place of Birth:	Saint Paul, Minnesota
Citizenship:	United States of America
Family:	<i>Spouse:</i> Donna McFarren Plunkett
	<i>Children:</i> Matthew James (1971)
	Benjamin John (1973)

EDUCATION:

BS, History and Chemistry (1972); University of Minnesota; Minneapolis, Minnesota; 1966 – 1969
 MD (1972); University of Minnesota; Minneapolis Minnesota; 1969 – 1972

POSTGRADUATE TRAINING AND EXPERIENCE:

Rotating Internship; Saint Paul Ramsey Medical Center; Saint Paul, Minnesota; 1972 – 1973
 Anatomic and Clinical Pathology Residency; Saint Paul Ramsey Medical Center; Saint Paul, Minnesota; 1973 – 1978
 Forensic Pathology Fellowship; Hennepin County Medical Examiner's Office; Minneapolis, Minnesota; 1975 – 1976

BOARD CERTIFICATION:

Anatomic Pathology, Clinical Pathology and Forensic Pathology; American Board of Pathology; 1978

MEDICAL LICENSURE:

Minnesota and Wisconsin

EMPLOYMENT:

Hennepin County Deputy Medical Examiner; 1975 – 1984
 Hennepin County Assistant Medical Examiner; 1984 – 1985

Laboratory and Medical Education Director, Regina Medical Center; Hastings, Minnesota; 1978 – 2004

Laboratory Director, Cannon Falls Community Hospital; Cannon Falls, Minnesota; 1981 – 2004

Coroner, Minnesota Regional Coroner's Office; Hastings, Minnesota; 1980 – 1998

Assistant Coroner, Minnesota Regional Coroner's Office; 1999 – 2004

PROFESSIONAL ORGANIZATIONS:

Ramsey County Medical Society

Minnesota Medical Association

American Medical Association

American Society of Clinical Pathologists (Fellow); 1976 – 2004

College of American Pathologists (Fellow)

Minnesota Society of Pathologists; 1978-2001

- Minnesota Medical Association Interspeciality Council Representative; 1991 – 1998
- Member of the MSP Executive Committee

Twin City Society of Pathologists; 1984 – 2001

Minnesota Coroners and Medical Examiners Association; 1974 – 2001

- President, 1981 and 1985)

National Association of Medical Examiners

American Academy of Forensic Sciences

SPECIAL APPOINTMENTS:

College of American Pathologists; Inspector, Laboratory Accreditation Program; 1984 – 1994

Minnesota Coroners and Medical Examiners Association; Executive Committee, 1978 – 1998

Regina Medical Center Operating Board; 1991 – 1996

Regina Medical Center Medical Staff Executive Committee; 1985 - 1994

- President of the Medical Staff; 1987 – 1990

Chairman, Regina Medical Center Infection Control Committee; 1978 – 1990, 1993 – 1999

Minnesota Department of Health, Epidemiology Section, Emerging Infectious Diseases Program (Appointed Member, Hospital-based Physician)

Reviewer, *The Lancet*

Reviewer, *Forensic Science International*

Reviewer, *Acta Paediatrica*

Reviewer, *Journal of Forensic Sciences*

HOSPITAL STAFF APPOINTMENTS:

Regina Medical Center (Active, 1978 – 2004; Courtesy, 2005 – present)

Cannon Falls Community Hospital (Active, 1980 – 2004)

PUBLICATIONS AND NATIONAL PRESENTATIONS:

1. Tan RE, Noreen JP, Plunkett JJ. Chronic intussusception following intestinal bypass surgery for morbid obesity. *Abdominal Surgery* 1981;23:76-8.
2. Plunkett J. Sudden death and myocardial infarction in Minnesota. *NEJM* 1984;310:1187-9 (letter).
3. Plunkett JJ, Amatuzio JC. Clostridial sepsis and sudden death. Abstract presented at the AAFS National Meeting, February 1985.
4. Plunkett JJ, Amatuzio JC. Sudden infant death: I: Cost analysis of investigative procedures. Abstract presented at the ASCP Fall Meeting, 1985.
5. Plunkett JJ, Amatuzio JC. Sudden infant death: II: Ten years experience in three Minnesota counties. Abstract presented at the ASCP Fall Meeting, 1985.
6. Plunkett JJ, Amatuzio JC. Sudden infant death: III: Sudden non-SIDS natural deaths in infancy. Abstract presented at the AAFS Annual Meeting, February 1986.
7. Amatuzio JC, Plunkett JJ. Hemophilus influenzae sepsis in an asplenic adult. Abstract presented at the AAFS Annual Meeting, February 1985.
8. Plunkett J, Amatuzio JC. Electrical injury and death in three Minnesota counties. Abstract presented at the AAFS Annual Meeting, February 1986.
9. Plunkett J. Serum tests for diagnosis of iron deficiency. *AJCP* 1990;94:524-5 (letter).
10. Plunkett J. Minnesota infant death investigation guidelines. Minnesota Coroners and Medical Examiners Association, October 5, 1990.
11. Plunkett J, *et al.* Guidelines for Blood Component Transfusion. American Red Cross North Central Blood Services, ARC/NCBS (1997).
12. Plunkett J. Restricting the time of injury in fatal inflicted head trauma. *Child Abuse Negl* 1998;22:943-4 (letter).
13. Plunkett J, Thomas LC. Medical examiner and coroner systems. *JAMA* 280:325, 1998 (letter).
14. Plunkett J. Shaken baby syndrome and the death of Matthew Eappen: a forensic pathologist's

- response. *Am J Forens Med Pathol* 1999;20:17-21,1999.
15. Plunkett J. Sudden death in an infant caused by rupture of a basilar artery aneurysm. *Am J Forens Med Pathol* 1999;20:211-214.
 16. Plunkett J. Recognizing abusive head trauma in children. *JAMA* 1999;282:1421-1422 (letter).
 17. Plunkett J, Plunkett M. Physiologic periosteal changes in infancy. *Am J Forens Med Pathol* 2000;21:213-216.
 18. Plunkett J. Clarity on the diagnosis line. *Ann Diagn Path* 2000;4:134 (letter).
 19. Plunkett J. Fatal pediatric head injuries caused by short-distance falls. *Am J Forens Med Pathol* 2001;22:1-12.
 20. Plunkett J. Author's response to Drs. Spivack and Levin. *Am J Forens Med Pathol* 2001;22:417-19 (letter).
 21. Plunkett J. Author's response to fatal pediatric head injuries caused by short distance falls. *Am J Forens Med Pathol* 2002;23:103-04 (letter).
 22. Geddes JF, Plunkett J. The evidence base for shaken baby syndrome. *Br Med J* 2004;328:719-20 (Editorial).
 23. Goldsmith W, Plunkett J. A biomechanical analysis of the causes of traumatic brain injury in infants and children. *Am J Forens Med Pathol* 2004;25:89-100.
 24. Miller M, Leestma J, Barnes P, Carlstrom T, Gardner H, Plunkett J, et al. A sojourn in the abyss: hypothesis, theory, and established truth in infant head injury. *Pediatr* 2004;114:326 (letter).
 25. Plunkett J. Resuscitation injuries complicating the interpretation of premortem trauma and natural disease in children. *J Forens Sci* 2006;51:127-30.
 26. Van Ee C, Moroski-Browne B, Raymond D, Thibault K, Hardy W, Plunkett J. Evaluation and refinement of the CRABI-6 anthropomorphic test device injury criteria for skull fracture. Proceedings of the ASME 2009 International Mechanical Engineering Congress & Exposition, IMECE 2009-12973.
 27. Van Ee C, Raymond D, Thibault K, Hardy W, Plunkett J. Child ATD reconstruction of a fatal fall. Proceedings of the ASME 2009 International Mechanical Engineering Congress & Exposition, IMECE 2009-12994.

INVITED LECTURES, PRESENTATIONS, AND CONFERENCES (1989-1994):

1. "Fundamentals of Death Investigation"; Minnesota Bureau of Criminal Apprehension; Brainerd, Minnesota; March 7, 1990 (7 hours, POST approved).
2. "Preleukemia and Dysmyelopoietic Syndromes"; Regina Medical Center Medical and Professional Staff; March 28 and April 4, 1990 (1 hour, AAFP prescribed credit and AMA Category I credit approved).
3. "Arterial Blood Gas Analysis and Monitoring"; Northfield City Hospital Medical and

- Professional Staff; Northfield, Minnesota; April 18, 1990 (1 hour, AAFP prescribed credit approved).
4. "Cancer Genetics, Epidemiology and Primary Prevention"; American Cancer Society; October 3, 1990 (1.5 hours, Nursing CEU approved).
 5. "Fundamentals of Death Investigation"; Minnesota Bureau of Criminal Apprehension; Saint Paul, Minnesota; October 11, 1990 (7 hours, POST approved).
 6. "Plasma Cell Dyscrasias and Hypercalcemia of Malignancy"; Regina Medical Center Medical and Professional Staff; January 2, 1991 (1 hour, AAFP prescribed credit and AMA Category I credit approved).
 7. "Plasma Cell Dyscrasias and Hypercalcemia of Malignancy"; Northfield City Hospital Medical and Professional Staff; January 8, 1991 (1 hour, AAFP prescribed credit and AMA Category I credit approved).
 8. "A Critical Analysis of Recommendations for Hepatitis Immunization"; Regina Medical Center Medical and Professional Staff; January 10, 1991 (1 hour, AAFP prescribed credit and AMA Category I credit approved).
 9. "A Rational Approach to Evaluation of an Anemic Patient"; Visiting Professor Series, University of Illinois, College of Medicine at Urbana-Champaign; February 21, 1991 (1 hour, AMA Category I credit approved).
 10. "Evaluation of Thyroid Function"; Visiting Professor Series, University of Illinois, College of Medicine at Urbana-Champaign; February 21, 1991 (1 hour, AMA Category I credit approved).
 11. "The Triumph of Hope over Science and Sanity: The Cholesterol Myth"; Visiting Professor Series, University Of Illinois, College of Medicine at Urbana-Champaign; February 22, 1991 (1 hour, AMA Category I credit approved).
 12. "Infant Death Investigation"; Visiting Professor Series, University of Illinois, College of Medicine at Urbana-Champaign; February 22, 1991 (1 hour, AMA Category I, credit approved).
 13. "Infant Death Investigation"; Regina Medical Center Medical and Professional Staff; February 27, 1991 (1 hour, AAFP prescribed credit and AMA Category I credit approved).
 14. "Fundamentals of Death Investigation"; Minnesota Bureau of Criminal Apprehension; Worthington, Minnesota; March 20, 1991 (7 hours, POST approved).
 15. "The Autopsy and the Role of a Pathologist in Wrongful Death Cases"; Minnesota Trial Lawyers Association; Minneapolis, Minnesota; May 2, 1991 (1 hour, CLE approved).
 16. "Death Investigation"; Scott County Law Enforcement; Shakopee, Minnesota; June 6, 1991 (2 hours, POST approved).
 17. "Physiologic Effects of Firearms"; Dakota County Law Enforcement; Rosemount, Minnesota; June 12, 1991 (2 hours, POST approved).
 18. "Fundamentals of Death Investigation"; Minnesota Bureau of Criminal Apprehension; Grand Rapids, Minnesota; August 14, 1991 (7 hours, POST approved).

19. "Selected Topics in Surgical Pathology"; Regina Medical Center Medical and Professional Staff; September 4, 1991 (1 hour, MFP prescribed credit and AMA Category I credit approved).
20. "How to Examine Medical Experts"; Minnesota State Bar Association; Minneapolis, Minnesota; October 1, 1991 (8 hours, CLE approved).
21. "Implication of Laboratory Test Results for Nursing Personnel"; South Suburban Medical Center Nursing Staff; Farmington, Minnesota; October 29, 1991 (1.5 hours, Nursing CEU approved).
22. "Peripheral Morphology, Bilirubin Determinations and Acute Leukemia"; Regina Medical Center Medical and Professional Staff; October 30, 1991 (1 hour, AAFP prescribed credit and AMA Category I credit approved).
23. "Selected Topics in Laboratory Medicine"; Northfield City Hospital Medical and Professional Staff; November 19, 1991 (1 hour, AAFP prescribed credit approved).
24. "Infant Death Investigation"; Minnesota Bureau of Criminal Apprehension, Advanced Child Abuse Investigations; Rochester, Minnesota; November 20, 1991 (2.5 hours, POST approved).
25. "Death by Natural Causes"; Minnesota Chiefs of Police Association; March 25, 1992 (1 hour, POST approved).
26. "Infant Death Investigation", Minnesota Chiefs of Police Association, March 25, 1992 (1 hour, POST approved).
27. "Infant Death Investigation"; Minnesota Bureau of Criminal Apprehension; Saint Paul, Minnesota; April 1, 1992 (2.5 hours, POST approved).
28. "Cervical Cytology and the Bethesda Classification System"; Regina Medical Center Medical and Professional Staff; May 27, 1992 (1 hour, AAFP prescribed credit and AMA Category I credit approved).
29. "Infant Death Investigation"; Minnesota Bureau of Criminal Apprehension; Alexandria, Minnesota; October 8, 1992 (2.5 hours, POST approved).
30. "Fundamentals of Death Investigation"; Minnesota Bureau of Criminal Apprehension; New Ulm, Minnesota; October 14, 1992 (2.5 hours, POST approved).
31. "The Laboratorian's Role in Forensic Medicine"; Divine Redeemer Memorial Hospital; South Saint Paul, Minnesota; October 2, 1992 (1 hour, AMA Category I credit approved).
32. "Decision Analysis in Laboratory Medicine"; Northfield City Hospital Medical and Professional Staff; December 15, 1992 (1 hour, AAFP prescribed credit approved).
33. "How to Examine Medical Experts"; Minnesota State Bar Association; Minneapolis, Minnesota; March 11, 1993 (8 hours, CLE approved).
34. "Medical Investigation of Motor Vehicle Fatalities"; Minnesota Chiefs of Police Association; March 24, 1993 (2 hours, POST approved).
35. "Infant Death Investigation"; Minnesota Bureau of Criminal Apprehension; Fairmont, Minnesota; May 27, 1993 (2.5 hours, POST approved).

36. "How to Examine Medical Experts"; Minnesota State Bar Association; Minneapolis, Minnesota; October 14, 1993 (8 hours, CLE approved).
37. Invitational Working Conference, Vulnerable Adult Act Issues; State of Minnesota, Office of the Attorney General; Saint Paul, Minnesota; November 9, 1993.
38. "Time of Death Determinations"; Northfield City Hospital, EMT/Paramedics; March 14, 1994 (1 hour, EMT/Paramedic CEU).
39. "How to Examine Medical Experts"; Minnesota State Bar Association; Minneapolis, Minnesota; March 24, 1994 (8 hours, CLE approved).
40. "Selected Topics in Laboratory Medicine"; Regina Medical Center Medical and Professional Staff; March 30, 1994 (1 hour, AAFP prescribed credit and AMA Category I credit approved).
41. "Decision Analysis in Laboratory Medicine and Pathology"; Minnesota Society of Pathologists; Minneapolis, Minnesota; April 29, 1994 (1 hour, AMA Category I credit approved).

INVITED LECTURES, PRESENTATIONS, AND CONFERENCES (MAY 1994 THROUGH-2005):

I did not maintain a list of lectures, presentations, and conferences during this time. However, I made presentations to several state and local Public Defender organizations; to the Neurosciences Unit at the Radcliffe Infirmary (Oxford, England); and for the American Society of Neuroradiology; among others.

INVITED LECTURES, PRESENTATIONS, AND CONFERENCES (2006-PRESENT):

1. "Differential Diagnoses in Infant Brain Injury"; Eaton Foundation; Royal College of Medicine, London, United Kingdom; May 16, 2006.
2. "Mechanisms, Mimics, and Differential Diagnoses in Infant Brain Injury"; South Carolina Association of Criminal Defense Lawyers; Greenburg, South Carolina; July 14, 2006.
3. "Mechanisms, Mimics, and Differential Diagnoses in Infant Brain Injury"; Ohio Association of Criminal Defense Lawyers; Columbus, Ohio; October 6, 2006.
4. "Infant Injury Evaluation"; Oregon Criminal Defense Lawyers Association; Portland, Oregon; December 2, 2006.
5. "State v. Plunkett: When the State Loses, The Expert Gets Indicted"; Oregon Criminal Defense Lawyers Association; December 2, 2006.
6. "Mechanisms, Mimics, and Differential Diagnoses in Infant Brain Injury"; Los Angeles County Public Defenders Association; Los Angeles, California; September 15, 2007.
7. "Mechanisms, Mimics, and Differential Diagnoses in Infant Brain Injury"; Texas Criminal Defense Lawyers Association; Dallas, Texas; March 4, 2008.
8. "Mechanisms, Mimics, and Differential Diagnoses in Infant Brain Injury"; Wisconsin Criminal Defense Lawyers Association; Milwaukee, Wisconsin; March 14, 2008.

9. "The Differential Diagnosis for Subdural Hemorrhage in Children Under the Age of Two"; Evidence-Based Medicine and Science Symposium; Denver, Colorado; February 21, 2009.
10. "Infant and Toddler Falls"; Hershey Medical Center Pediatric Abusive Head Trauma Conference; Jackson Hole, Wyoming; June 26, 2009.

SPECIAL INTERESTS:

Decision analysis in laboratory medicine and pathology

Continuing education for the medical and legal profession, law enforcement and the community

Head injury in children

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

TERRY LEE CEASOR,

Petitioner,

CASE NO. 08-13641

v.

HON. JOHN O'MEARA
MAG. PAUL J. KOMIVES

JOHN OWIEJA, Warden
Jackson Cooper Street Facility

Respondent.

_____ /

Affidavit of Peter Stephens

1. My name is Peter J. Stephens. My address is 100 Club Drive, Suite 135, Burnsville NC 28714. I am licensed to practice in Wisconsin and Indiana and am certified by the American Board of Pathology in three areas, Anatomical Pathology, Clinical Pathology, and Forensic Pathology. Forensic pathology is the subspecialty of anatomic pathology that studies the cause of injury and/or death in the context of the legal system.
2. I graduated from McGill University, Montreal, Canada in May 1965 with the degrees of Doctor of Medicine and Master of Surgery (M.D., C.M.). After completing a rotating internship at the Royal Victoria Hospital, Montreal, Canada, I completed residencies in anatomical and clinical pathology at the Medical College of Virginia, Richmond, VA and the University of Western Ontario, London, Ontario, Canada. I was board certified by the American Board of Pathology in November 1970 in anatomic and clinical pathology in November 1970 and in the subspecialty of forensic pathology in May 1984. .
3. I was Acting Iowa State Medical Examiner from 1984-1985 and Deputy Iowa State Medical Examiner from 1985-1995. As such, I testified in cases of child abuse. In 1997, I was consulted in the index case of a series of misdiagnosed alleged "Shaken Baby" cases in Iowa which were subsequently agreed by numerous other forensic pathologists to

be due to non-abuse related causes. I now maintain a consulting practice in forensic pathology. A copy of my CV is attached.

Records Reviewed

4. I was asked to review the medical records of Brenden Genna and the trial testimony given by the state's medical experts in the trial against Terry Ceasor in 2005. I have done so without charging a fee for my review. I understand that Mr. Ceasor did not retain a medical expert to review the records or to testify on his behalf against the allegations that he had shaken or intentionally caused Brenden's head injuries.
5. I have reviewed the Port Huron hospital records for Brenden's stay on October 3, 2003, including admission documents, the E.R. physical, discharge papers, progress notes, and radiology and lab reports. I have also reviewed the Detroit Medical Center (Children's Hospital) records for Brenden's stay from October 3-8, 2003, including admission documents, discharge papers and progress notes. I have also reviewed Brenden's pediatric records; various CPS reports; and police interviews with Dr. Hunt (the E.R. doctor who treated Brenden at Port Huron)/ Ms. Raelo (a Port Huron nurse), Cheryl Genna (Brenden's mother), and Terry Ceasor; and CPS reports. In addition, I reviewed trial testimony by Dr. Hunt and pretrial/trial testimony by Dr. Holly Gilmer-Hill, a pediatric neurosurgeon at Children's Hospital.
6. The materials that I received do not include the several key documents, including the radiology images, lab and consultation reports from Children's. The scene photographs are also missing from the police report. Since there are inconsistencies in the interpretations of the radiology scans, I would advise that the radiology scans be obtained and re-read.
7. The records that I have reviewed indicate that Brenden had a short fall from a sofa onto a coffee table or floor at around 4 or 4:15 p.m. on October 3, became unresponsive, and was taken to the hospital by his mother, Cheryl Genna, and Mr. Ceasor, arriving at 4:20 p.m. The records indicate that at 4:35 pm, he was responsive to verbal stimuli but was not tracking, and that by 5:15 he was alert, tracking and responding appropriately. A CT scan taken at about 5:30 showed a small subdural collection, with no fractures or abnormalities within the brain. He was then transferred to Children's Hospital. The next morning, he was described as alert and playful, and he was kept under observation, with no need for neurosurgical intervention. Subsequent reports note mild bruising on the forehead; retinal hemorrhages; and a small amount of soft tissue swelling on the right parietal scalp. He was discharged several days later, with no apparent concerns.
8. The opinions in this affidavit are given to a reasonable degree of medical certainty. In reaching these conclusions, I have reviewed the scientific literature on head injury suffered as a result of impact.

Conclusion

9. Based on the records, it is my opinion that Brenden Genna suffered an ordinary concussion with temporary loss of consciousness consistent with a fall from a sofa to the floor. There is no medical evidence to support the claim that Mr. Ceasor caused the concussion collapse by shaking or shaking/ impact.
10. In diagnosing abuse, medical professionals look for disparities between the caretakers' accounts. While this approach is valid, it must be done with extreme caution to avoid misinterpreting apparent discrepancies. There is nothing in the records that appears inconsistent with the versions of Brenden's injury given by Terry Ceasor or Cheryl Genna. Brenden's mother. The only changed element in the story told to the hospital and police was whether Cheryl was present when Brenden fell. This change in story was adequately explained when Cheryl admitted that she misled police and CPS on this account due to her fear that her children would be taken away from her. This "inconsistent" element in the explanation of Brenden's injuries should not be used to diagnose Brenden with SBS.
11. The presence of retinal hemorrhage and subdural hematoma is not diagnostic for intentional injury or shaking. Although this theory was widely accepted in the 1990s and into the early 2000's, the literature establishes that these findings also occur from short falls and natural disease processes.

Differential Diagnosis and Shaken Baby Syndrome

12. *Evolution of diagnosis of causation of head injuries traditionally associated with Shaken Baby Syndrome (SBS).* Prior to 1995, most physicians believed that significant injury to an infant or child from a fall was so unusual as to be almost diagnostic of abusive injury, specifically, shaken baby syndrome (SBS). It was widely believed within the medical profession that subdural hematoma, retinal hemorrhages and brain swelling ("the triad") were generally caused by violent shaking or intentional blunt force impact. At the time, it was commonly believed that short distance falls (less than 12 to 15 feet) did not lead to serious injury, that children who suffered head injury were immediately symptomatic, and that natural disease processes rarely if ever produced these symptoms. Given these beliefs, if a caretaker could not describe a motor vehicle accident, fall from a multi-story building or comparable catastrophic event occurring immediately before hospital admission, it was assumed that the caretaker must have intentionally injured the child. In the past decade, these beliefs have been challenged and the core assumptions disproven. Those unfamiliar with the more recent medical literature still hold this belief.
13. In 1993, Dr. Gregory Reiber reviewed short distance falls but did not fully realize the significance of his observations.¹ Since 2000, however, the evidence has established that lethal injury to the infant head can occur from an accidental fall, even of a short distance.

General acceptance of this possibility started in about 1998 at a meeting of the National Association of Medical Examiners when John Plunkett, M.D. showed a videotape made by a relative of a child who sustained a short distance fall and subsequently died. Shortly thereafter, Dr. Plunkett published a series of short distance falls causing death in children occurring in a variety of accidental situations, including the videotaped fall.ⁱⁱ This evidence was compelling and has progressively gained traction.

14. It is now generally accepted that while some higher level falls do not cause severe injury, a small subset of short distance falls result in subdural hematoma and retinal hemorrhaging, skull fractures and occasionally death. Serious, though nonfatal, head injuries have been reported in falls from stairs, bouncy chairs, car seats, shopping carts and high chairs and even from toys dropped on children.^{iii iv v vi vii} Many of these reports are from the pediatric and public health literature, and many public health agencies (such as the US Consumer Product Safety Commission and individual state and city health departments) and hospitals carry cautionary warnings to parents on their web sites. Since 2000, neuropathology studies have also shown that the brain changes in pediatric head injury are generally hypoxic-ischemic (i.e. due to lack of oxygen) rather than traumatic in origin, suggesting a wide range of possible causations, including natural causes.
15. Until approximately 2004, the medical community did embrace the idea that retinal hemorrhages were indicative of abusive injury. Despite the fact that Terson had identified increased intracranial pressure (such as is seen in brain swelling) as a cause retinal hemorrhages approximately 100 years up, this diagnostic belief still exists. However, Patrick Lantz, M.D. of Wake Forest Medical Center has recently studied retinal hemorrhages by examining the eyes of every deceased person in his autopsy room by means of Postmortem Monocular Indirect Ophthalmoscopy. Dr. Lantz found that the only children whose retinas had been examined by an ophthalmologist. At autopsy, Dr. Lantz found retinal hemorrhages in a wide variety of cases, including accidental injuries and natural disease processes including sudden unexpected death in infancy. Dr. Lantz's work has been presented at academic conferences and is in the process of being submitted for publication.
16. As a result of the new learning, the Courts are in some instances beginning to reexamine earlier convictions. For example, in a recent Wisconsin shaken baby case in which I testified, the Wisconsin courts granted post-conviction relief to Audrey Edmunds, holding that she was entitled to a new trial based solely on advances in medical knowledge.^{viii} After reviewing the evidence, the charges were dropped.
17. Internationally, the validity and reliability of diagnoses of pediatric head injury, including shaken baby syndrome and blunt force or abusive head trauma, has similarly been called into question by a series of cases in the United Kingdom and, more recently, by the Goudge Inquiry in Ontario, Canada. On October 1, 2008, following five months of

hearings with testimony by leading international forensic pathologists on misdiagnosed pediatric deaths, including shaken baby cases and one case with an unfounded conviction of sexual assault and murder, Justice Stephen Goudge issued a 1,000 page report finding systemic flawed pathology and misdiagnoses of child deaths, including pediatric head injury. In calling for a review of more than 200 shaken baby and similar pediatric head injury cases in Ontario, Justice Goudge emphasized the advances in medical knowledge since the 1990s and called on judges to act as gatekeepers to protection the legal system from flawed scientific evidence and false convictions.

18. In conclusion, since 2000, there has been broad recognition that many findings previously diagnosed as abuse are consistent with accidental or natural causes, or in some instances fall within the range of normal. In this case, much of the trial testimony reflects the accepted dogma of the late 1990s, much of which is no longer accepted or has been disproven.
19. In this case, the same considerations apply in even greater force since Mr. Ceasor was convicted without the benefit of a medical defense. Such a defense would most certainly have been available prior to Mr. Ceasor's trial in 2005. A proper defense would have addressed the clinical evidence, the advances in neuroradiology, neuropathology and biomechanics, and the alternative diagnoses.
20. *Differential diagnosis.* All medical diagnoses begin with a "differential diagnosis," which is the consideration of all possible entities capable of explaining clinical symptoms. As indicated, one of the most common known causes for subdural and retinal hemorrhages is impact. While shaking is often advanced as a cause for subdural and retinal hemorrhage, this concept is hypothetical and has not been proven. Once an impact has occurred between the head and any other surface, moreover, it is impossible to say whether or not there was shaking before, during, or after that impact. Since the body does not distinguish between accidental and inflicted injury, it can also be difficult or, from a medical standpoint, impossible to determine whether a particular impact was accidental or inflicted. For this, one must look to see if there are pattern injuries (e.g., bruises corresponding to an implement) or longstanding patterns of abuse (e.g., a history of broken bones, bruising or witnessed violence).
21. In addition to impact, there is a long list of natural causes for subdural and retinal hemorrhages, ranging from congenital conditions to infectious disease. In 2000, virtually none of these causes was recognized or understood. By 2006, however, even the most ardent shaken baby advocates acknowledged that medical conditions that "mimic" shaking or abusive head trauma include prenatal, perinatal and pregnancy-related conditions; birth trauma; congenital malformations; childhood stroke; accidental causes; genetic and metabolic disorders; diseases; hematological diseases and coagulation disorders; infectious disease; autoimmune and vasculitis conditions; oncological

conditions; toxins, poison and nutritional deficiencies; and medical and surgical complications. In many cases, one sees a combination of causes. For example, a fall that would be trivial in most children may be devastating or even deadly in a child with preexisting conditions, including prior concussion or chronic subdural hematoma.

22. In addition, it is increasingly recognized that, in addition to the general complexity of the human brain, infant and developing brains have unique characteristics that may make them prone to subdural hematomas, retinal hemorrhage, brain swelling and other physiological cascades, many of which are still poorly understood. One of the features that has been the subject of considerable recent research, and on which doctors on both sides of the controversy are beginning to reach agreement, is the vascularity of the dural border cell layer, which may account for what was believed to be subdural but is more accurately characterized as intradural bleeding in infants and young children. This type of subdural hemorrhage may be a natural response to choking, vomiting or any maneuver that temporarily reduces the venous outflow from the brain.

Trial Testimony

Dr. Hunt's trial testimony

23. Dr. Hunt, the Emergency Room doctor who treated Brenden Genna on arrival at Port Huron Hospital, testified that Brenden was stable and breathing on his own on admission (352) and that he did not see any signs of trauma (354). However, he believed the story he was told regarding Brenden's fall was inconsistent with Brenden's injuries, particularly the subdural hematoma, given the absence of any external signs of trauma (360, 364). Since Brenden did not have external signs of trauma, he felt that the injuries were more consistent with shaken baby syndrome (364:13-15).

Dr. Hunt did not claim that the subdural hematoma was inconsistent with a fall; instead, he claimed that the absence of bruising or other external signs of trauma indicated that impact had not occurred. The nursing notes from Children's indicate, however, that Brenden had bruising on his forehead, consistent with a fall. Since bruising may not develop for some hours after injury, this finding confirms impact consistent with a fall from the couch. The lack of other bruising is inconsistent with shaken baby syndrome since the violence needed to cause this injury to a 16-month old child as large as Brenden, who was 33 inches tall and weighed 27 lbs 5 oz at his last doctor visit, would inevitably have caused external bruises, rib fractures or other marks, none of which were present.

24. Dr. Hunt also testified that 16 month olds don't typically fall and are not very big, and that to fall off a couch, hit one's head, and get a subdural hematoma would be "very strange." (363: 2-16).

In my opinion, having been in practice for more than 30 years, 16 month olds can and do fall, sometimes with serious consequences. Such cases have been reported in many peer-reviewed medical journals. It is not, moreover, unusual to have a subdural hemorrhage from hitting one's head. As established in numerous biomechanical tests, the forces from short distance impact far exceed the forces from shaking.

25. Dr. Hunt testified that in diagnosing shaken baby syndrome he looks for retinal hemorrhage and subdural hematoma. (364:11-16).

As stated above, diagnosing shaken baby syndrome based upon the presence of retinal hemorrhage and subdural hematoma is outdated since it is well understood that these findings also appear in short falls and a wide array of congenital and natural disease processes.

Dr. Gilmer-Hill's pre-trial and trial testimony

26. Dr. Holly Gilmer Hill testified that shaken baby syndrome or shaken impact syndrome refers to non-accidental, intentional injury of a baby or a young child. (Pre-trial exam 20:15-22). The mechanism is usually shaking, but also involves some element of impact, such as striking the child or slamming him or her against a wall, or throwing him or her down "fairly violently." (Pre-trial exam 20:22-25 23:22-23, trial testimony 433:24-434:19, 21-23).

As Dr. Gilmer-Hill recognizes, impact remains the most likely cause for head injury, although natural causes are also increasingly recognized as primary or contributing factors. As set forth above, however, the impact need not be intentional and can result from relatively short falls. Recognizing that shaking is not a proven mechanism for head injury, at least in the absence of serious neck injury, the National Association of Medical Examiners withdrew its position paper on shaking in 2006, and the American Academy of Pediatrics recommended that this term no longer be used in 2009. It is, moreover, unlikely that the violent mechanisms described by Dr. Gilmer-Hill could occur without major bruising, fractures, grip marks, and/or neck injuries, none of which were present. It is equally unlikely that the child would recover quickly and seemingly completely within an hour or so of the incident, with no signs of trauma, if he had been subjected to the violent forces described at trial.

27. Dr. Gilmer-Hill also testified that features used to diagnose shaken baby syndrome are subdural hemorrhage, skull fracture, and retinal hemorrhage. (21:12-23).

Brenden did not, however, have a skull fracture, and the diagnosis of "shaking" based on subdural and retinal hemorrhages is outmoded.

28. Dr. Gilmer-Hill testified that a history that changes frequently as to how the accident occurred is an element in diagnosing shaken baby syndrome. (436: 1-8).

As stated above, the story on the manner in which Brenden's injuries occurred did not change. Instead, it Ms. Genna initially gave an incorrect story because she was afraid she would lose her children. Everything else in the story remained the same.

29. *Retinal hemorrhage as diagnostic for SBS.* Dr. Gilmer-Hill testified that the presence of retinal hemorrhage combined with the presence of subdural hematoma is diagnostic for child abuse and that these types of injuries must be caused by intentional force, whether shaking or otherwise. (Pre-trial exam 22: 17-23, 54: 4-6, Trial Testimony 435: 1-4, 13-28, 494: 18-21, 499: 19-25). She also stated that retinal hemorrhage occurs when one is shaken or slammed onto a surface, usually repeatedly. (453: 13-28).

While retinal hemorrhage can be caused by impact, including short falls, Dr. Gilmer-Hill incorrectly testified that retinal hemorrhages can only be caused by shaking or intentional force. Instead, retinal hemorrhages have many causes, including retinal hemorrhages have many causes including accidental trauma and medical diseases not involving any trauma.

30. *Short falls.* Dr. Gilmer-Hill stated that a fall from a height of the couch (17 inches high) would not result in a subdural hematoma and retinal hemorrhaging. (Pre-trial exam 29:24- 30:5). At trial, she testified that subdural hemorrhage, brain-swelling and midline shift are only seen in accidents such as falls from second story buildings or high speed motor vehicle accidents and cannot be caused by an accidental injury such as a fall from a couch onto a carpeted floor. (456: 1-12, 17-25; 457:1). She also stated that she was aware of American studies that indicate that fatal injuries can be caused by short falls onto a hard surface. (474:20-25, 478:1-10).

As set forth above, the literature – including the Plunkett videotape – confirms that subdural hemorrhages, retinal hemorrhages and brainswelling can occur from short falls. Studies conducted by the federal agencies confirm, moreover, that the carpeting will not generally affect the forces generated by a short fall. In this case, the child minor subdural hemorrhage and nonspecific retinal hemorrhages are consistent with the fall described by Mr. Ceasor.

31. *Neuropathology literature on SBS.* Dr. Gilmer-Hill testified that she was unfamiliar with literature written by Dr. Jennian Geddes, a British neuropathologist, and that she relied exclusively on American neurosurgical literature (474: 4-19, 475: 11-14, 483: 9-25, 484: 1-9).

In 2001-2003, Dr. Geddes and her colleagues published a series of research papers on the neuropathology of allegedly shaken or abused infants. Prior to this research, it was generally believed that the injuries in shaken or abused infants were caused by the traumatic tearing of the axons in the brain, causing instant incapacitation. Using sophisticated testing techniques, Dr. Geddes determined that most of the injury in these brains was hypoxic (i.e., due to lack of oxygen) rather than traumatic in nature. She also found that subdural hemorrhages of a type found in allegedly shaken infants in late term fetuses or newborns who had died natural deaths. These discoveries caused forensic pathologists and others to rethink the etiology of pediatric head injury. Over the years, moreover, it has led to the identification of numerous alternative causes for medical findings previously associated with shaking or other forms of inflicted head trauma.

32. *2001 Short Fall Study by John Plunkett.* Dr. Gilmer-Hill testified that she disagreed with the result of John Plunkett's 2001 study that children can receive significant trauma or die from short falls. (473: 19-24). She testified that Dr. Plunkett's study disagreed with the body of evidence in stating that children could die from falls as small as two to three feet. She asserted that the gravitational force of a fall can be greater than that from shaking a baby only when it was from a height of 20 to 30 feet. (479: 19-15, 480: 1-7). Finally, Dr. Gilmer-Hill stated that Dr. Plunkett's study was not widely accepted in her profession (pediatric neurosurgery). (491: 2-7).

Over the past decade, Dr. Plunkett's study has been increasingly accepted by the medical community since it is very difficult to disagree with a videotaped fall. As discussed below, moreover, it has been known since 1987 that the gravitational force from even a short impact far exceeded the force from shaking. The initial study was, moreover, done by an experienced pediatric neurosurgeon on the faculty of Georgetown University medical school and has written several papers in the American, British, and Japanese literature stating his disbelief in shaking as a cause of pediatric head injury.

33. *Duhaime Study.* In testifying that shaking a child has greater gravitational force than a fall from a height of between five and six feet, Dr. Gilmer-Hill relied on studies out of the University of Pennsylvania by Ann-Christine Duhaime. (478: 22-25, 479: 1-16). She also testified that some of Duhaime's studies involved cats and rats. (Tr. 484:10-15, 285: 1-5).

Dr. Gilmer-Hill misstates the conclusions of the Duhaime study. Dr. Duhaime's 1987 study actually found that shaking did not reach the injury thresholds for concussion or subdural hemorrhage. In contrast, impact on soft surfaces exceeded all injury thresholds and produced forces 50 times greater than shaking.^{ix} To my knowledge, none of Dr. Duhaime's studies involved cats and

rats. Instead, they are based on biomechanical models and early primate studies by A.K. Ommaya and other researchers.

34. Dr. Gilmer-Hill stated that she was unfamiliar with the work of Dr. Reiber, whose 2001 study indicated that children can fall from as little as two to three feet and receive severe brain swelling. (483:9-14). Dr. Gilmer-Hill also testified that she was unfamiliar with the studies of Dr. Root, whose study indicated that short falls can generate the same gravitational forces as long falls (483:15-20).

This testimony establishes that Dr. Gilmer-Hill was unfamiliar with the short fall literature.

35. *External Injuries.* Brenden had no history of broken bones or abuse, no neck injuries, and no marks indicating that someone had vigorously shaken him. (476:15-25, 477:1-3). She further testified that even if she had seen the bruising on his forehead noted on the hospital records, she would have not have changed her diagnosis. (490:17-22).

The Duhaime studies and many others establish that it is physiologically impossible to shake a child, particularly a child of Brenden's size, sufficiently hard to rupture bridging veins and that such injuries would cause neck injury prior to causing head injuries. If moreover, Brenden had been shaken with extreme force, there would have been fractures, bruising or some type of external injury, none of which were present.

Medical history

36. Several features in Brenden's pediatric history suggest that he may have been vulnerable to head injury. The pediatric records report an increasing head size, starting at the 25th percentile at birth, increasing to the 75th percentile in subsequent pediatric visits, and reaching the 85th percentile two weeks before hospitalization. These figures suggest that he may have had a longstanding subdural hematoma or extraaxial collections, which may have made him more susceptible to subdural hemorrhage or concussion.
37. The radiology suggests that Brenden had an ear infection at the time of admission, and the hospital records indicate he had taken a children's cough and cold remedy the previous day. In 2003, the two medications mentioned in his records (Pediapain and Tylenol Cold) contained pseudoephedrine and dextromethorphan, which were subsequently removed from the shelves for children under the age of 2 due to an association with infant death in this age group. Since these medications constrict the blood vessels and increase the heart rate, they increase the pressure on the blood vessels and the possibility of subdural hemorrhage. While the records do not indicate that Brenden took these medications on the day of his collapse, I would not foreclose this

possibility since very little medical investigation was done once the hospital concluded that this was inflicted injury.

38. It is unfortunate that the reported fall at daycare two days earlier, mentioned by Ms. Genna in her testimony (Tr. 262: 15-23), was not more thoroughly investigated since the combination of two minor impacts is known to result in concussion (the so-called "second impact" syndrome).
39. I cannot comment on other possible medical causes for Brenden's collapse since no tests were done. It is, for example, entirely possible that Brenden fell because he suffered a seizure or childhood stroke. It is, however, equally possible that he simply became dizzy from running back and forth on the couch.

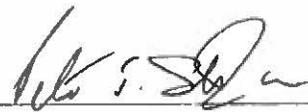
Concussion

40. Regardless of etiology, this is a clearcut concussion case, characterized by short term loss of consciousness followed by rapid recovery. It was, however, complicated by a confusion between the concussion literature and the child abuse literature. It has been always been understood that people, including children, can in layman's terms, "knock themselves out" by hitting their heads, either by falling or having something fall on them. In common and medical parlance, this is known as concussion.
41. The concussion literature is distinct from the child abuse literature. The commonest response of the brain to any impact is to develop brain swelling (edema). Brain swelling results in varying degrees of disorientation ranging from "simple fussiness" through frank coma. As the brain recovers from the swelling process it will progressively recover and reset itself similar to rebooting a malfunctioning computer.
42. The records suggest that Brenden may have fallen in daycare a day or two prior to this incident. In that case, the fall from the sofa may have been a second impact. If so, it was critical for him to be kept on bedrest until his brain could completely recover. Cases of children who collapse within 72 hours of an initial relatively minor impact, such as falling off a bed, are also reported in the literature.
43. While the conclusion that Brenden's concussion was caused by violent shaking or shaking/impact is inconsistent with the literature, I agree entirely with the treatment provided by Dr. Gilmer-Hill and her associates, who kept the child in the hospital and under observation for several days following his concussion. Since it can be hard to prevent 16 month olds from having normal tumbles, such as his sofa fall, it is likely that their treatment plan prevented additional injuries and long-term consequences.

Conclusion

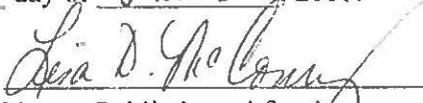
44. Brendan's concussion is consistent with a short fall from a sofa onto a coffee table and/or floor and inconsistent with the violent mechanisms of injury suggested at trial. Given his rapid recovery, it is not possible that he suffered from torn bridging veins or diffuse traumatic axonal injury. Instead, his medical findings and rapid recovery confirm that this was a simple concussion that was appropriately treated with observation and rest.
45. I have been asked whether it would be possible to understand the issues or provide an adequate defense without a medical expert. My answer is categorically "no." This case presents some of the more challenging issues in modern medicine. Even if an individual attorney has sufficient medical knowledge to interpret laboratory reports, it would not be possible to introduce the literature and evidence needed to explain these issues to the jury or the Court without using experts. In this case, the relevant evidence on the change in diagnosing shaken baby syndrome was not presented adequately during trial, presumably because the trial attorney did not understand the significance of such findings for their client. Without such information, it was not possible for Mr. Ceasor to have a fair trial.

I swear under penalty of perjury that the foregoing is true and correct.



 Peter J. Stephens, M.D.

Subscribed and sworn to before me this 26th day of June, 2010.



 Notary Public in and for the
 State of North Carolina

My commission expires: 3-28-14

¹ Reiber, GD, *Fatal Falls in Childhood: How Far Must Children Fall to Sustain Fatal Head Injury?* Report of Cases and Review of the Literature, Am. J. Forensic Medicine & Pathology 14(3): 201-207 (1993)

¹¹ Plunkett, J. *Fatal Pediatric Head Injuries Caused by Short-Distance Falls*, Am. J. of Forensic Medicine and Pathology Volume 24, Number 4, Dec. 2003.

¹² Pierce, MC, Bertocci, G, Janosky, JE and Aguel, F *Femur Fractures Resulting from Stair Falls Among Children: An Injury Plausibility Model*, Pediatrics 2005; 115; 1712-1722.

¹⁰ Wickham, T and Barahamson, E. *Head injuries in infants: the risk of bouncy chairs and car seats* Arch. Dis. Child. 2002; 86: 168-169.

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¹³ Blumenthal, I. *Skull fracture – child abuse or an accident*, The Lancet Vol 356 July 15, 2000.

¹⁴ *State v. Edmunds*, 746 N.W.2d 590, 598-599 (Wis. Ct. App. 2008)

¹⁵ Duhaime, Ann-Christine. *Nonaccidental Head Injury in Infants – The “Shaken Baby Syndrome”* New England Journal of Medicine 338(25):1822-1829, June 1998: “More recent biomechanical studies of these injuries show that the magnitude of angular deceleration is 50 times as great when the head of an infant model held by the trunk forcefully strikes a surface as when shaking alone occurs, and it only reaches injury thresholds calculated for infants at the moment of impact.”

CURRICULUM VITAE

Peter J. Stephens, M.D.

Personal:

Date of Birth: 3 September 1941
 Birthplace: Colchester, Essex, England
 Marital Status: Married, two children

School Education:

Westminster School, London, England 1954 - 1957

Premedical Education:

McGill University, Montreal, Canada 1957 - 1961 Degree: B.Sc.

Medical Education:

McGill University, Montreal, Canada 1961 - 1965 Degree: M.D., C.M.

Internship:

Royal Victoria Hospital, Montreal, Canada 1965 - 1966

Postgraduate Training:

Medical College of Virginia, Richmond, Virginia:
 Junior Asst. Resident & Asst. Resident in Pathology 1966 - 1967
 Assistant Resident in Pathology 1967 - 1968
 University of Western Ontario, London, Canada:
 Assistant Resident in Anatomic Pathology 1968 - 1969
 Assistant Resident in Clinical Pathology 1969 - 1970

Board Certification:

American Board of Pathology: (Anatomic & Clinical Pathology) Nov 1970
 American Board of Pathology: (Forensic Pathology) June 1984

Continuing Education:

American Acad. of Forensic Sciences, 1988-90, '92, '95, '96, '98, 2003, 2004, 2007, 2008
 EBMS Seminar on Head Injury in Childhood, Chicago, May 2007
 Mammography Education, Inc. Breast Cancer Control, April 5 - 9, 1995
 Workshop on Current approaches in Forensic Toxicology, 2/19/96
 Surgical Pathology Course, Harvard Med. School/Mass Gen. Hosp. 11/17-11/21/97
 Duke University Medical Center, Pulmonary Pathology Course 8/25/99 - 8/27/99
 National Association of Medical Examiners Annual Mtg. October 1999

Preceptorships in Forensic Pathology:

Cuyahoga County Coroner's Office, Cleveland, Ohio, 1983, 1984
 Wayne County Med. Examiner's Office, Detroit, Mich, 1983, 1984

Employment:

Regional Medical Labs, P.C., Battle Creek, Michigan July 1970 to Jan 1977

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Employment (continued):

Quad Cities Pathologists Group, February 1977 to Dec 1989
Davenport, Iowa

Private Practice of Forensic Pathology January 1990 to June 1991
Bettendorf, Iowa

Weland Clinical Laboratory, PC July 1991 to March 2001
Cedar Rapids, Iowa

Miscellaneous Appointments:

Acting Iowa State Medical Examiner 1984
Deputy Iowa State Medical Examiner 1985 - 1995
Deputy Medical Examiner, Scott County, Iowa 1983 - 1991
Inspector, C.A.P. Lab. Accreditation Program 1980 - 2001
Inspector, A.A.B.B. I & A Program: 1978 - 1989

Hospital Staff Memberships:

St. Luke's Hospital, Davenport, Iowa	(Active)	1977 - 1990
Mercy Hospital, Davenport, Iowa	(Active)	1977 - 1991
Muscatine Gen. Hospital, Muscatine, Iowa	(Active)	1977 - March 2001
Illini Hospital, Silvis, IL	(Courtesy)	1990 - 1991
Mercy Hospital, Cedar Rapids, Iowa	(Active)	1991 - March 2001
Sartori Memorial Hospital, Cedar Falls, Iowa	(Active)	1991 - 1995
Guttenberg Municipal Hospital, Guttenberg, IA	(Courtesy)	1991 - March 2001
Peoples Memorial Hospital, Independence, IA	(Courtesy)	1991 - March 2001
Med. Ctr. Of NE Iowa, Manchester, IA	(Courtesy)	1991 - March 2001
Mercy Hospital, Oelwein, IA	(Courtesy)	1991 - March 2001
Community Memorial Hospital, Sumner, IA	(Courtesy)	1991 - March 2001
Palmer Lutheran Health Ctr., West Union, IA	(Courtesy)	1991 - March 2001
Central Community Hospital, Elkader, IA	(Courtesy)	1991 - March 2001
Chief of Staff, Muscatine General Hospital,		1980 - 1982

State Medical Licensure:

Indiana, Wisconsin

Inactive in Ontario (Canada), Illinois, Iowa, Michigan, Minnesota and Vermont.

Memberships in Professional Organizations:

American Medical Association	(Member)	1970-Present
Mitchell-Yancey County (N.C.) Medical Society	(Member)	2002-Present
College of American Pathologists	(Emeritus Fellow)	1970-Present
American Society of Clinical Pathologists	(Fellow)	1970-2001
Iowa Association of Pathologists	(Member)	1977-2001
Iowa Association of Pathologists	(President)	1985-1987
American Academy of Forensic Sciences	(Member)	1985-Present
National Association of Medical Examiners	(Member)	1985-Present

Peter J Stephens MD Page 3

Clinical Research:

Pathology reviewer, Cedar Rapids Oncology Project, 1991 to March 2001

Publications:

Spontaneous rupture of the spleen in plasma cell leukemia.

Stephens PJ; Hudson P

Can Med Assoc J (Canada), Jan 1969, Vol.100 (1) p31-4

Carcinoma of the breast in childhood.

Oberman HA; Stephens PJ

Cancer (United States), Aug 1972, Vol. 30 (2) p470-4.

The correlation of promotion of tumour growth and of induction of hyperplasia in epidermal two-stage carcinogenesis.

Frei JV; Stephens P

Br J Cancer (England), Mar 1968, Vol. 22 (1) p83-92.

Rectal impaction following concrete enema.

Stephens PJ and Taff ML

Am J For Med and Pathology, June 1987, Vol. 8(2):179-182.

A case of autoerotic asphyxia with multiplex paraphilias

Boglioli LR, Taff ML, Stephens PJ and Money ML

Am J For Med and Pathology. Vol. 20(3):274-276 (1999)

Four Deaths Due to Carbon Monoxide Poisoning in Car Washes

Carson, H.J. & Stephens, P.J. Am J For Med and Pathology. Vol. 12(1):64-73 (1999)

Making allegations without due care is wrong.

Stephens, PJ BMJ. 2005 Jun 25;330(7506):1508. (Invited letter)

Miscellaneous:

Senior Aviation Medical Examiner, Federal Aviation Administration, 1974-1991

U.S. (FAA) Commercial & Instrument Pilot Certificate

Associate Staff, Transportation Safety Institute, Okla. City, OK July 1990

Member, Rotary Club of Davenport, Iowa 11/89 to 6/91

Member, Iowa Medical Delegation to Stavropol, Russia March 1994

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

TERRY CEASOR,

Petitioner,

CASE NO. 08-13641

v. HON. JOHN O'MEARA MAG. PAUL J. KOMIVES

JOHN OCWIEJA, Warden Jackson
Cooper Street Facility

Respondent.

Affidavit of Dr. Ronald H. Uscinski

I, Ronald H. Uscinski, state as follows:

Background

My name is Ronald H. Uscinski, and I am a clinical neurosurgeon. My office address is 5530 Wisconsin Ave., Chevy Chase, MD 20815. I am board certified in neurological surgery and am a practicing neurosurgeon. I have been a Clinical Professor at the Georgetown University School of Medicine in both the Department of Surgery (Neurosurgery) and the Department of Pediatrics since 1980. I am also a Professor of Neurological Surgery at the George Washington School of Medicine since 1997.

In my practice, I have operated on children as well as adults, and I have special expertise in the literature surrounding pediatric head injuries, including the so called "Shaken Baby Syndrome". I have published several articles on the topic in peer-reviewed journals, including *The Shaken Baby Syndrome* (Journal of American Physicians & Surgeons, 2004); *The Shaken Baby Syndrome: An Odyssey* (Neurologia medico chirurgica, Tokyo, 2005); and *The Shaken Baby Syndrome: An Odyssey II Origins and Hypothesis* (Neurologia medico chirurgica, Tokyo, 2008). In addition to my teaching responsibilities, I have made numerous presentations to professional organizations and have frequently qualified as an expert on this subject in state courts. The primary focus of my work on "Shaken Baby Syndrome" consists in determining the origin of the theory, tracing its development through the years, and examining and evaluating its scientific basis, and currently, investigating the true origin of the infant subdural hematoma.

Basis of Review

At the request of the University of Michigan Law School Innocence Clinic, I have reviewed this case of Brendan Genna a *pro bono* basis. In so doing, I have reviewed Port Huron hospital records dated October 3, 2003; Detroit

Medical Center (Children's) hospital records dated October 3-8, 2003; pediatric records; and testimony by Dr. Hunt and Dr. Gilmer-Hill.

From a neurosurgical perspective, several key documents are missing from these records. Specifically, I do not have the radiology images from either hospital or the radiology, lab and consultation reports from Children's. If I had been asked to review this case prior to trial, I would have obtained complete medical records, including these critical materials. Given the history of a short fall, I would also have advised counsel to retain a biomechanical engineer to testify on the biomechanical issues.

Conclusion

Based on the available records, Brendan Genna had a small subdural collection that resolved without neurosurgical intervention. There were no fractures or other signs of abuse, and the only available radiology report does not provide information that would allow identification of the nature of this collection (old blood v. new blood vs. CSF) or attempt to age it (chronic v. acute). Mild bruising on the forehead reportedly appeared some hours after hospital admission, and there was some soft tissue swelling on the right scalp. The hospital notes report that the child was behaving appropriately within an hour or so of admission and was alert and playful the following morning. These findings are consistent with an accidental short fall causing concussion. They are inconsistent with violent shaking, and there is nothing in the records suggesting abuse.

At trial, the State's lead expert, Dr. Gilmer-Hill, a neurosurgeon, provided incorrect information on the literature on "shaken baby syndrome." As a threshold matter, it is impossible to acquire a comprehensive understanding of "shaken baby syndrome" while relying only on American neurosurgical literature. The literature on "shaken baby syndrome" spans a number of disciplines, including forensic pathology, neurology, radiology, and injury biomechanics, and includes major contributions by English and Japanese researchers. Dr. Gilmer-Hill's testimony suffered greatly from her exclusion of information outside the American neurosurgery journals.

Because she was unfamiliar with the literature, Dr. Gilmer-Hill provided the jury with incorrect information on the state of SBS literature in 2005. For example:

- Dr. Gilmer-Hill stated that SBS is the violent shaking of a child causing the brain to slam back and forth and the bridging vein to tear, usually accompanied by striking the child or slamming the child down onto a hard or soft surface. (434: 1-18). While

slamming a child into various surfaces can cause serious injuries, research has shown that shaking does not create the force needed for the generation of subdural hematomas.

- Dr. Gilmer-Hill stated that studies from the University of Pennsylvania in the 1980's and subsequent concluded that that the forces from shaking far exceeded the forces from impact and that only intentional abuse could result in the pattern of injuries observed in Brendan Genna. (478: 22-25, 479: 1-18). Dr. Gilmer-Hill misinterpreted these studies, which established that shaking did not meet the injury threshold for bridging generation of subdural bleeding and that the forces of shaking were approximately 1/50 the forces of impact. The results of these studies have been replicated in subsequent biomechanical experiments.

6. Dr. Gilmer-Hill also provided the jury with inaccurate information on Brenden's injuries. For example:

Dr. Gilmer-Hill stated that the Port Huron CT scan showed that Brendan's subdural hemorrhage was acute, which she defined as no more than 6-12 hours old, and that his collapse would have immediately followed injury. (485: 13-25, 486: 1-13). A solely acute hemorrhage on CT scan may, however, be up to 3-4 days old, and the medical literature reports time lags of up to 3 days between injury and collapse.

Dr. Gilmer-Hill testified that her diagnosis of seizures was based on a Port Huron report of unequal pupils. (459: 14-21). However, unequal pupils simply indicate neurological disturbance, of varying etiology.

Dr. Gilmer-Hill testified that the only mechanism that can result in subdural hematomas and retinal hemorrhaging is abuse or intentional injury. (435: 17-20). However, multiple studies have shown that these findings can also be caused by accidental short falls and/or natural processes, including chronic subdural hematoma.

Clinical Issues

7. While most neurosurgical training is directed towards treatment of neurosurgical problems rather than determining injury causation or timing, neurosurgeons have a unique perspective on head injury, including pediatric head injury. First, those of us who treat adults as well as children often have a more comprehensive understanding of the broad range of possible causes for subdural hemorrhage and other findings that, in adults, are rarely attributed to shaking or other forms of abuse. Many, if not most of these causations are equally applicable to children. Second, because of our surgical experience, we are able to correlate two-dimensional black and white radiology images (CTs, MRIs, etc.) to what is actually present and seen in vivo in the operating room, which is three-dimensional and in color. As a result, we can sometimes identify features that might be overlooked by radiologists. Conversely, by virtue of their own training and experience, radiologists can sometimes identify features that would augment surgical evaluation and treatment. As this suggests, evaluating injuries requires a cooperative effort between several disciplines.
8. In this case, Brendan Genna had a small subdural collection and other findings that did not require surgical intervention, followed by rapid recovery. As a result, the evaluation of his injuries must be based on the radiology images, the hospital records and clinical history, including his rapid recovery, and a comprehensive understanding of the mechanisms and nature of trauma to the nervous system and its surroundings including, in this instance, reference to the so-called "shaken baby syndrome." As a clinician, I agree that the decisions to give initial preventative

medications and to limit subsequent treatment to observation were correct. The diagnosis of "shaking" or "shaking/impact" was, however, incorrect.

The "Shaken Baby Syndrome" Literature

Origins of the "Shaken Baby Syndrome" Hypothesis

9. My involvement in "shaken baby syndrome" began in 1997, when I was asked to review the case of a child who was fatally injured, supposedly by shaking.¹ In conducting my review, I researched the entire body of literature referencing "shaken baby syndrome." As a practicing neurosurgeon and teaching professor, I was startled to discover that there was no scientific support in the literature for this popular and widely-accepted theory, and that key elements of the theory were contradicted by the few studies that were available. Since then, many others have made the same "odyssey" of discovery.

10. The first description of shaking as a mechanism for intracranial injury in infants appeared in 1971 in an article by Norman Guthkelch.² Other authors, including John Caffey, began to publish extensively on this topic in the years following Guthkelch's article.

11. The early papers on "shaken baby syndrome," including those by Caffey and Guthkelch, rely on a 1968 paper by Dr. Ayub Ommaya, a neurosurgeon,³ who was in turn building on work by A. H. Holbourn.⁴ Ommaya and Holbourn were attempting to quantify experimentally the rotational acceleration necessary to cause intracranial whiplash injury in rhesus monkeys.

11. Ommaya's paper is the sole source of experimental data from which the initial hypothetical shaking mechanism was drawn. Significantly, Ommaya never examined whether human beings could shake infants with enough force to produce the acceleration necessary to cause intracranial injury. Instead, his experiments simulated rear-end motor vehicle collisions.

12. The early "shaken baby syndrome" papers seized on this work and hypothesized that manual shaking of human infants could also cause rotational acceleration sufficient to cause intracranial injury, including subdural hemorrhage. However, neither these early

¹ My review led to my testimony in the case of Louise Woodward, a British nanny accused of second degree murder in the shaking death of 8-month old Matthew Eappen.

² Guthkelch AN: Infantile subdural hematoma and its relationship to whiplash injuries. *Br Med J* 2(759):430-431, (1971)

³ Caffey J: On the theory and practice of shaking infants. Its potential residual effects of permanent brain damage and mental retardation. *Am J Dis Child* 124: 161-169, (1972); Caffey J: The whiplash shaken infant syndrome: Manual shaking by the extremities with whiplash induced intracranial and intraocular bleeding, linked with residual permanent brain damage and mental retardation. *Pediatrics* 54: 396-403, (1974)

⁴ Ommaya AK, Faas F, Yarnell P: Whiplash injury and brain damage. *JAMA* 204: 75-79, (1968)

⁵ Holbourn AH: Mechanics of head injuries. *Lancet* 9:438-441, 1943; Holbourn AH: The mechanics of trauma with special reference to herniation of cerebral tissue. *JNeurosurg* 1: 191-200, (1944)

authors nor subsequent investigators took into account critical physiological differences between human infants and rhesus monkeys, particularly in the neck and torso. Nor did they attempt to determine whether manual shaking generated forces equivalent to the forces generated by rear-end motor vehicle collisions.

13. Despite this lack of scientific basis, "shaken baby syndrome" gained immediate acceptance and widespread popularity, ratified primarily on anecdotes and case studies that assumed apparently *a priori* that subdural hemorrhage, retinal hemorrhage and brain swelling in children who had no signs of impact not only *could* be caused by shaking, but *could only be caused by shaking*. For 30 years, the "shaken baby syndrome" theory did not undergo traditional and accepted scientific verification.

14. In 2003, a paper by Mark Donohoe applied the principles of evidence-based medicine to determine the degree of confidence that should accrue to "shaken baby syndrome."⁶ In an article published in the *American Journal of Forensic Medicine and Pathology*, the official journal for forensic pathologists, Donohoe concluded that, after 32 years, there was "inadequate scientific evidence to come to a firm conclusion on most aspects of causation, diagnosis, treatment, or any other matters relating to SBS" and that "the commonly held opinion that the finding of SDH [subdural hemorrhage] and RH [retinal hemorrhage] in an infant was strong evidence of SBS was unsustainable, at least from the medical literature." This is the same conclusion that I and others had reached previously.

The Shaking Hypothesis Conflicts with Injury Biomechanics

15. In 1943, Holbourn's paper estimated a concept of injury patterns, and intuitively, a concept of injury thresholds based on the involved mass of neural tissue, with the necessary corollary that a smaller mass of tissue would require correspondingly larger rotational acceleration to cause injury.⁷ While Ommaya alluded to this in his paper, Guthkelch, Caffey and others did not recognize its significance.

16. In 1987, Dr. Ann-Christine Duhaime et al attempted to replicate manual shaking in an effort to show that shaking could cause subdural hemorrhage under established injury thresholds. However, the experiments showed the opposite: in these experiments, shaking did not reach the injury thresholds for concussion, subdural hematoma, or diffuse axonal injury. These experiments also showed that the forces from impact were much greater than the forces from shaking. Similar experiments by Dr. Michael Prange, Duhaime et al in 2003 produced the same results. These experiments did not, however, address what injuries could be produced by shaking, nor did they address the potential alternative causes for findings that had previously been attributed to shaking. In 2004, Duhaime and her co-authors acknowledged that they could not "yet answer if shaking can cause

⁶ Donohoe M: Evidence-based medicine and shaken baby syndrome: part I: literature review, 1966-1998. *Am J Forensic Med Pathol* 24(3): 239-242, (2003)

⁷ Holbourn AH: Mechanics of head injuries. *Lancet* 9:438-441, (1943)

⁸ Duhaime A, Gennarelli T, Thibault L, Bruce D, Margulies S, Wiser R: The shaken baby syndrome. A clinical, pathological, and biomechanical study. *J Neurosurg* 66: 409-415, (1987)

⁹ Prange M, Coats B, Duhaime A, Margulies S: Anthropomorphic simulations of falls, shakes, and inflicted impacts in infants. *J Neurosurg* 99: 143-150, (2003)

intracranial injury in infants, and use of terminology that includes this mechanism should be avoided.”¹⁶

17. In 2005, Dr. Faris Bandak, a biomechanical engineer and research professor in the Department of Neurology at F. Edward Hebert School of Medicine, directly addressed the question of the injuries that might be expected from the type of violent shaking hypothesized in "shaken baby syndrome." Bandak showed that the level of force hypothesized would seriously damage or destroy the infant neck, and that cervical spinal cord or brainstem injury would occur at significantly lower levels of shaking accelerations than intracranial injury.” In other words, if an infant is manually shaken, injury biomechanics confirms that the infant will suffer neck injury well before suffering intracranial injuries, such as subdural hemorrhage. Conversely, the presence of subdural hematomas without neck injury indicates that the hematoma was not caused by manual shaking. This conforms to the everyday experience of most adults, who know instinctively that the neck is a weak link in infant anatomy and therefore the infant head must be supported when carrying or feeding a baby. It also conforms to the experience of automobile passengers who experience whiplash (neck) injuries from low speed auto accidents without subdural hemorrhage or other intracranial injuries.

18. To summarize, the hypotheses of Guthkelch and Caffey, which quickly became widely accepted in the medical community, were based on a misinterpretation of an experiment done for a different purpose (Ommaya) and are contrary to the laws of injury biomechanics (Holbourn, Duhaime and others). As pointed out by many others and confirmed by Bandak, injuries caused by manual shaking of an infant would be very different than those hypothesized by Caffey and Guthkelch and would include neck injuries. Based on biomechanical studies, the hypothesis that subdural hematomas are caused by manual shaking is not only unsupported by scientific evidence but experimentally disproved.

Impact Injuries, Short Falls and Other Causes

19. Short falls, while usually innocuous, have a proven potential for serious injury. As demonstrated by Bandak and simple laws of physics, a three- foot fall onto a hard surface results in impact velocity greater than 9 miles per hour, which generates more than twice the force needed to fracture an infant skull. The various physiological responses to short falls -such as vomiting, aspiration, and seizing -can further complicate the clinical picture, rendering such cases inappropriate for simple generalization. Instead, each case requires careful and individual evaluation.

20. Since biomechanical experiments confirm that short falls can cause subdural and retinal hemorrhage, these findings are not telltale signs of inflicted injury. *Indeed, when an adult presents with these findings, intentional injury is certainly not assumed and rarely considered* There is no scientific basis for assuming otherwise when an infant presents

¹⁶Prange, Coats, Duhaime and Margulies, J Neurosurg, Vol. 100 p. 575 (2004)

¹⁷Bandak FA: Shaken baby syndrome: a biomechanics analysis of injury mechanisms. Forensic Sci Int 151: 71-79, (2005)

with these findings. Instead, one would expect the subdural hemorrhages found in infants to reflect many of the same causes as in adults, and likely more.

21. Strokes are a good example of intracranial injuries that are found in children as well as adults and often present with the same symptoms as "shaken baby syndrome." When adults have strokes, we do not assume that they have been shaken or subjected to violent injury. For years, it was not understood that children also have strokes. The medical literature establishes, however, that childhood stroke is relatively common, with some forms found primarily in infants.¹² In children, however, stroke is often undiagnosed or misdiagnosed as shaking or inflicted injury. Stroke in children is just now beginning to reach the public consciousness, as indicated in a recent feature article in the New York Times.¹³

It is also important to differentiate between acute and chronic subdural hematomas. While acute hematomas can be evidence of recent injury, there are situations wherein differentiation between the two is difficult. For example, it is well known among clinical neurosurgeons operating on patients with chronic subdural hematomas that at surgery fresh blood may be found in addition to old blood in a chronic hematoma. Experiments have confirmed that chronic subdural hematomas can and do rebleed without accompanying trauma, causing an older hematoma to seem acute.¹⁴ Since up to half of children are born with acute subdural hematomas, most of which can and do resolve relatively quickly but some of which become chronic, chronic subdural hematomas should be high on the differential diagnosis for seemingly acute subdural bleeding in infants and children, particularly those who have reported increases in head circumference, as in this case.¹⁵

In reviewing trial testimony, it is important to realize that most clinicians -including pediatricians, E.R. doctors and neurosurgeons -may in fact not be familiar with the research basis for "shaken baby syndrome" and similar theories but are simply repeating what they have

¹² See, e.g., Wasay, M., M.D., F.R.C.Path., et al, Cerebral Venous Sinus Thrombosis in Children.

A Multicenter Cohort from the United States, *J Child Neurol*, 23(1): 26-31 (2008)

Fitzgerald, K., M. Sc, et al., Cerebral Sinovenous Thrombosis in the Neonate, *Arch Neurol*, 63(3): 405-409 (2006)

Sehire, G., et al., Cerebral Venous Sinus Thrombosis in Children: Risk Factors, Presentation, Diagnosis and Outcome, *Brain*, 128(3):477-489 (2005).

¹³ *Children Don't Have Strokes? Just Ask Jared*, Science Times, The New York Times (January 19, 2010).

¹⁴ Ito H, Komai T, Yamamoto S: Fibrinolytic enzyme in the lining walls of chronic subdural hematoma. *J Neurosurg* 48: 197-200, 1978 *Neurol Med Chir (Tokyo)* 46, (2006);

Ito H, Yamamoto S, Komai T, Mizukoshi H: Role of local hyperfibrinolysis in the etiology of chronic subdural hematoma. *J Neurosurg* 45: 26-31, (1976);

Kawakami K, Chikama M, Tamiya T, Shimamura Y: Coagulation and fibrinolysis in chronic subdural hematoma. *Neurosurgery* 25: 25-29, (1989);

Yamashima T, Yamamoto S, Friede R: The role of endothelial gap junctions in the enlargement of chronic subdural hematomas. *J Neurosurg* 59: 298-303, (1983).

¹⁵ Rooks, V.J., Eaton, J.P., Ruess, L., Petermann, G.W., Keck-Wherley, J., Pedersen, R.C. Prevalence and Evolution of Intracranial Hemorrhage in Asymptomatic Term Infants. *Am. J. Neuroradiol*, 29: 1082-1089 (2008).

been told. Reviewing the literature requires a substantial time commitment, a willingness to read articles outside one's normal areas of expertise, and a willingness to acknowledge that, in this area, much of what has been taught and believed to be true is incorrect. In this context, it is not surprising that the trial testimony in this case did not reflect the state of the literature or of appropriate scientific methodology.

Testimony of Dr. Gilmer-Hill

24. Dr. Gilmer-Hill described SBS as violent shaking of a child, generally under age 2, causing the brain to slam back and forth and a bridging vein to tear, causing a subdural hematoma. (434: 1-18). In apparent recognition of Duhaime's study, she went on to testify that usually the child is struck as well, or slammed down on a sofa or soft surface, or even against a wall or thrown up against the ceiling. (434: 16-19). She further testified that the only mechanism that could result in subdural hematomas and retinal hemorrhaging was abuse or intentional injury. (435: 17-20).

Comment: Research has shown that abusive style shaking does not result in head accelerations consistent with subdural hematoma generation. In addition to the 1987 article, an article co-authored by Duhaime and published in the Journal of Neurosurgery in 2003 (Prange 2003) showed that maximal exertion manual shaking of an infant sized test device (drastically smaller and easier to shake than a 16 month old) produces head accelerations less than those produced in a 1 foot fall onto carpet. As in the earlier study, the rotational accelerations of shaking were not consistent with subdural hematoma generation. Witnessed and well documented falls, including a videotaped fall reported in a study by Dr. Plunkett in 2001, have confirmed that short falls can result in serious and even fatal head injuries, including subdural and retinal bleeding.

25. Dr. Gilmer-Hill testified about studies from the University of Pennsylvania in the 1980's and 2003 that were "trying to prove these injuries could have happened accidentally." She testified that this work established that the only mechanism that could result in the pattern of injuries associated with shaking baby syndrome was intentional injury. (pg 435:13-20). She also testified that Dr. Duhaime's studies established that shaking has much more force than even a 5'-6' fall. (478: 22-25,479: 1-18).

Comment: Dr. Gilmer-Hill misunderstood the findings of these studies, which were published in the Journal of Neurosurgery. (Duhaime 1987, Prange 2003). These studies established that shaking did not generate sufficient force to cause subdural hemorrhage and that impact - whether accidental or intentional - was required. As Duhaime and her co-authors acknowledged in 1987, "shaking alone in an otherwise normal baby is unlikely to cause the shaken baby syndrome." Subsequent work has established that, in children as in adults, these findings can result from impact (including shortfalls), natural causes, or some combination of the two.

26. Dr. Gilmer-Hill relied only on American neurosurgical literature (474: 4-19,475: 11-14, 483: 9-25, 484: 1-9).

Comment: Dr. Gilmer-Hill's complete reliance on American neurosurgical journals limited her ability to evaluate abusive versus accidental etiologies of injury. Much of the relevant research, including the original Guthkelch theory, is from England, with additional work published in Japan and elsewhere. My own original article on shaken baby syndrome was published as a letter in the British Journal of Neurosurgery.¹⁶ In addition, many key articles have been published in the Journal of Forensic Medicine and Pathology, the official journal for forensic pathologists, who specialize in injury causation. As noted, even the American neurosurgical journals do not support Dr. Gilmer-Hill's testimony. Equally important, by limiting her reading to American neurosurgical literature, she would not have recognized, or overlooked, the major flaws in shaking or shaking/impact theory, or the wide array of alternative causes identified in the pediatric and radiology literature.¹⁷

27. Dr. Gilmer-Hill testified that she could not say with certainty that Brenden did not have a subdural hematoma prior to falling off the couch, and that it is possible that the subdural hemorrhage caused the child to fall. She testified that a chronic (old) subdural can spontaneously rebleed from a membrane but that you would then see old and new blood in the subdural. (478: 5-8,483: 1-8). She also testified that the blood on the Port Huron CT scan was "fresh" or acute and therefore occurred within 6-12 hours before the scan. (477: 15-17,494: 1-8)

Comment: Neurosurgeons are not specifically trained in dating subdural hemorrhages, although we are sometimes in a unique position to do so given the ability to observe membranes surrounding subdural hematomas during surgery. Such membranes typically take a minimum of several weeks to form. In a child who does not have neurosurgery and who survives (eliminating the possibility of examining autopsy slides), CTs and MRIs are the only way to age hemorrhages. However, CT scans are of limited value in dating subdural bleeding, particularly if the lesion in question is chronic and has rebled. Thus, a CT scan of a child who has had two or more impacts within a week would simply show acute blood and possibly obscure older bleeding. MRIs are better at ageing hemorrhages, but they are not uniformly done in cases like this, in which the child recovers fully within a day.

28. Dr. Gilmer-Hill testified that she had personally seen about 15 SBS cases in 2005 and had testified approximately 30 times (ten times in 2005), all but once on SBS.

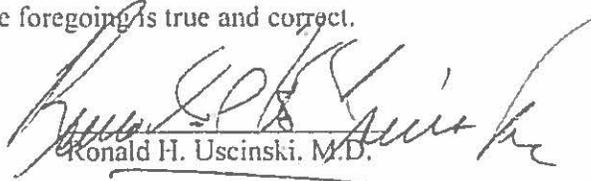
Comment: Since Dr. Gilmer-Hill was unfamiliar with the lack of scientific basis for shaken baby syndrome and the alternative causes for findings previously associated with shaking or shaking/impact, this testimony raises concern that she was

¹⁶ Uscinski, R., Shaken Baby Syndrome: fundamental questions. For Debate. British Journal of Neurosurgery 16(3): 217-219 (2002).

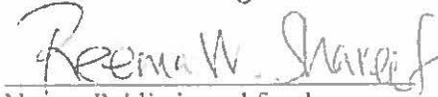
¹⁷ Barnes, P., M.D., & Krasnokutsky, M., M.D., Imaging of the Central Nervous System in Suspected or Alleged Nonaccidental Injury, Including the Mimics, Topics in Magnetic Resonance Imaging 18(1): 53-74 (2007)

diagnosing shaking or shaking/impact without exploring alternative causations, including short falls and natural causes.

I swear under penalty of perjury that the foregoing is true and correct.


Ronald H. Uscinski, M.D.

Subscribed and sworn to before me this 5th day of February, 2010.


Notary Public in and for the
State of ~~Maryland~~ Virginia

My commission expires: 2/28/2010



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M.D., Georgetown University, Washington, D.C., 1968

Internship, Bronx Municipal Hospital Center, Albert Einstein University College of Medicine, New York, NY, 1968-9

Residency in Neurological Surgery, Georgetown University and affiliated Hospitals, 1971-1975

Military Experience:

Medical Officer, United States Navy; served with United States Marine Corps, Parris Island, South Carolina, and aboard The U. S. S. Thomas A Edison (SSBN 610-B) Atlantic Submarine Force, 1969-1971

Appointments & Positions:

Senior Surgeon, U.S. Public Health Service, Medical Officer, Surgical Neurology Branch, National Institute of Neurological and Communicative Disorders and Stroke, NIH, Bethesda, Maryland, 1975-1976

Instructor in Surgery (neurosurgery) Georgetown University School of Medicine, Washington D.C., 1975-1976

Consultant in Neurosurgery, NIH, Bethesda, Maryland, 1976-1977

Clinical Instructor in Neurosurgery, Medical University of South Carolina, Charleston, South Carolina, 1977-1980

Clinical Assistant Professor, Dept. of Surgery (Neurosurgery), Georgetown University School of Medicine, Washington D.C., 1980-2000

Clinical Associate Professor, 2000-present

Clinical Assistant Professor, Department of Pediatrics, Georgetown University School of Medicine, Washington D.C., 1980-present.

Clinical Assistant Professor, Department of Neurological Surgery, the George Washington University School of Medicine, 1997-2008.

Clinical Associate Professor, 2008-

Adjunct Research Fellow Potomac Institute for Policy Studies, Arlington, Va, 2004-2006.
Senior Adjunct Fellow, 2006-

Certification

American Board of Neurological Surgery, 1978

Societies:

Congress of Neurological Surgeons, 1975
 American Medical Association 1976
 South Carolina Medical Society, 1977-1980
 American Association of Neurological Surgeons, 1979
 American College of Surgeons, 1980
 District of Columbia Medical Society, 1981
 Polish Society of Neurological Surgeons, corresponding member, 1983
 Research Society of Neurological Surgeons, 1989

Publications:

1. Ventricular Septa In the Neonatal Age Group, Diagnostic Considerations of Etiology and Comparison of Sonography and Computed Tomography. Schellinger D, Grant E, Hanz H, Petronca H, Uscinski R. AJHR: volume 7:1085-1071, 1987
2. Periventricular Leukomalacia in Combination with Intraventricular Hemorrhage, Sonographic Features and Sequelae. Grant E, Schellinger D, Smith Y, Uscinski R. AJHR: volume 7: 443-447, 1986
3. The Shaken Baby Syndrome. Uscinski R. Journal of American Physicians & Surgeons: Volume 9, #3; 76-77, 2004
4. The Shaken Baby Syndrome: An Odyssey. Uscinski RH. Neurologia medico-chirurgica (Tokyo) 46, 57-61, 2008
5. The Washington Post, March 9, 2008: B08, Outlook; "The Larger Tragedy in an Unjust Accusation"
6. The Shaken Baby Syndrome: An Odyssey II. Origins and Hypotheses. Uscinski RH, McBride DK. Neurologia medico-chirurgica (Tokyo) 48 (3), 151-155, 2008
7. "I Stand With Humility" Uscinski RH. Neurologia medico-chirurgica (Tokyo) 48 (9), 423-424, 2008

Presentations:

1. Research Society of Neurological Surgeons, "The Repaired Myelomeningocele, and Its Relationship to Tethering of the Spinal Cord" June, 1989
2. National Child Abuse Defense Resource Center, Child Abuse, 2000 and Beyond "Rebleeding and Subdurals and Children," September, 2000
3. National Association of Counsel for Children, 23rd National Children's Law Conference-Improving the Professional Response of Children in the Legal System, Panel Discussant: "Shaken Baby Syndrome" November, 2000
4. Interdisciplinary Problem Solving in Cranial-Maxillofacial Surgery, Panel Participant, Washington D.C., February 2001
5. National Child Abuse Defense Resource Center, "The Shaken Baby Syndrome, an Odyssey" September, 2001

6. The Polish-American Health Association, Washington D.C., 2001 "The Shaken Baby Syndrome, a Clinical Neurosurgical Perspective" March, 2001
7. Congress of the Polish Society of Neurosurgeons, Rzeszow, Republic of Poland "The Shaken Baby Syndrome, an Odyssey" September, 2001
8. Kings College Hospital, London, UK, "The Shaken Baby Syndrome, an Odyssey," February, 2002
9. Addenbrooke Hospital, Cambridge University, UK; "The Shaken Baby and Newtonian Physics," February, 2002
10. The Radcliffe Infirmary, Oxford University, UK; "The Shaken Baby Syndrome," February, 2002
11. The Neurosurgical Society of the Virginias, 37th Annual Meeting Hot Springs, Virginia, January, 2003; "The Shaken Baby Syndrome, History, Mechanism, and Paradox"
12. American Association of Physicians and Surgeons, Annual Meeting Portland, Oregon, October 2004; "The Shaken Baby Syndrome."
13. Japanese Society for Pediatric Neurosurgery Annual Meeting, Invited Guest Speaker, Nara, Japan, May 2005; "The Shaken Baby Syndrome," "Pediatric Neurotrauma" Ideas from the Arena"
14. National Child Abuse Defense and Resource Council, Annual Meeting, Las Vegas, Nevada, September 2006; "A Primer on Medical Recording."
15. United States Air Force Judge Advocate General School, Maxwell AFB, Montgomery, Alabama, Guest Lecturer, May, 2007; "The Shaken Baby Syndrome"
16. Administrative Office of the Courts, State of Kentucky, September, 2007: "The Shaken Baby Syndrome"
17. King Faisal Hospital, Kigali, Rwanda, Special Lecture, January, 2008: "Neurosurgery, Medicine, and Scientific Methodology"
18. The Neurosurgical society of the Virginias, 43rd Annual Meeting, Hot Springs, West Virginia, January, 2009, "Observations on Primate Birth."

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

TERRY CEASOR,

Petitioner,

CASE NO. 08-13641

v.

HON. JOHN O'MEARA
MAG. PAUL J. KOMIVES

JOHN OCWIEJA, Warden
Jackson Cooper Street Facility

Respondent.

Affidavit of Dr. Chris Van Ee

I, Chris A. Van Ee, state as follows:

1. My name is Chris A. Van Ee, Ph.D. I hold a Ph.D. in Biomedical Engineering from Duke University. My academic and scientific research has been focused on determining injury causation and evaluating injury prevention strategies. My work in biomechanics has been well recognized by the scientific community and the published results of my work have received multiple honors and awards. I have served as a grant reviewer for the National Institutes of Health, a program reviewer for the US Army Aeromedical Research Laboratory on Head and Spine Injury, the chairman of the Occupant Protection Committee of the Society of Automotive Engineers, and currently am the chair of the Scientific Program Committee of the Association for the Advancement of Automotive Medicine. I also am an adjunct professor in the Department of Biomedical Engineering at Wayne State University where I am engaged in graduate student training and academic research in impact, orthopedic, and safety biomechanics.
2. I am a biomechanical engineer. Biomechanical engineering is a subdiscipline of biomedical engineering that uses the application of mechanical engineering and physics to quantify the effects of forces on and within the human body, including tolerance levels and injury mechanisms for different age groups.

3. I have particular expertise in the analysis and risk assessment of head injury in the infant and adult populations. I am a co-author on what I believe to be the only peer reviewed publication (Prange et al. 2004) in which the infant head mechanical response to impact was directly measured experimentally and compared to the CRABI-6 infant crash test dummy response. My involvement in head injury research began in 1992 when I joined the impact biomechanics laboratory at Duke University as a PhD graduate student. Since then I have been involved in head injury risk assessments involving helmet testing for sports and transportation, design and development of laboratory experiments quantifying infant and adult head response for a variety of loading conditions ranging from shallow water diving to ballistic studies of skull fractures, and the evaluation of crash dummy head and neck response in relation to the human response. I have performed multiple forensic investigations into infant and adult head injuries in the automotive, marine, industrial, sporting, and domestic environments. I am not an expert in clinical medical care as it concerns the treatment and rehabilitation of the head injured patient. My expertise and training is in identifying and quantifying the mechanisms and risk of traumatic head injury and the evaluation of injury prevention devices and techniques.
4. I have been asked to review information on the alleged head trauma suffered by Brenden Genna. I have reviewed the available medical records from Port Huron Hospital and Detroit Medical Center, the incident report from the Port Huron police and child protective services, and transcripts of the testimony of Dr. Hunt and Dr. Holly Gilmer-Hill. The hospital records are incomplete and do not include radiology images from either hospital or the radiology, laboratory and ophthalmology reports from Childrens Hospital of Michigan (hereinafter "Childrens").
5. In addition to these materials, I am familiar with and have reviewed the historical and current scientific literature on the tolerance of the pediatric head to physical trauma.

Conclusion

6. Based on the records reviewed, the injuries Brenden suffered are consistent with the given history of the short fall off of the sofa as reported by Mr. Ceasor.
7. Dr. Gilmer-Hill's testimony left the jury with incorrect information regarding the injury biomechanics of infant head injury, short distance falls, and abusive shaking.
8. If I had been called to testify at trial, I would have testified Brenden's injuries, including his subdural hematoma and retinal hemorrhaging, were consistent with the short fall off of the sofa. I would also have testified that Brenden's injuries were not indicative of shaking. My testimony would have contradicted Dr. Gilmer

Hill's, which I believe is unsupported by both the current and contemporaneous scientific literature.

Incident history

9. As of September 20, 2004 (approximately 2 weeks before the incident), a medical exam showed that Brenden was 33 inches tall and weighed 27 pounds, 5 ounces.
10. Based on the records reviewed, on October 3 Brenden was in the care of Mr. Ceasor at Mr. Ceasor's residence while Brenden's mother, Cheryl Genna, took his 6 year old sister swimming, leaving at approximately 2:45 p.m. Mr. Ceasor was playing a game with Brenden in which Brenden ran along the couch, with Mr. Ceasor behind the couch. When Mr. Ceasor went to the bathroom, he heard a thud and found that Brenden was on the floor between the couch and the coffee table, in a position suggesting that he had fallen from the sofa onto the floor, possibly impacting the coffee table on the way down. This reportedly occurred between 4 and 4:15 p.m.
11. According to the St. Clair County Sheriff's Incident Report Narrative, the height of the top of the cushions of the couch was approximately 17 inches. A coffee table approximately 18.75 inches high was approximately 12 inches from the couch. The floor was carpeted. Since the reports indicate that the actual fall was not witnessed, there is no testimony regarding the exact fall dynamics, which part of the couch Brenden fell from, whether he struck the table during his fall to the floor, or if his head impacted the coffee table or the floor with significant force.
12. Ms. Genna reportedly arrived home soon after the fall to find Brenden in the arms of Mr. Ceasor (although this conflicts with the first reported history of the events which indicated she was at the residence at the time of the fall). Based on Brenden's condition, Ms. Genna and Mr. Ceasor drove Brenden to Port Huron Hospital, arriving at 4:20 pm.
13. The Port Huron medical reports indicate a right sided subdural collection and possible edema or midline shift with mild to moderate mass effect. Brenden was given preventative medications and transferred to Childrens, leaving at approximately 7:30 p.m.
14. Based on the records and testimony, Brenden was noted to have right sided parietal swelling and bruising on the forehead area in addition to subdural bleeding. Retinal hemorrhages were also reported.

Explanation for Injuries

15. Based on a review of the file, the range of explanations for Brenden's head injury are divided into two main categories: the reported history of the accidental fall off

the couch or an alleged abusive shaking and/or impact scenario. These possibilities can be classified as follows:

- 1) Accidental fall from the couch
- 2) Abuse
 - a) Shaking
 - b) Impacting of Brenden's head onto a soft surface
 - c) Broad impact of another object onto Brenden's head or Brenden's head impacting a broad surfaced object

16. In addition to these considerations, there is the possibility that Brenden's injury was not traumatic in nature. My expertise in head injury is in the evaluation of traumatic head injury risk for different traumatic head exposures. My expertise is not in clinical medicine and the identification of pathological head conditions that are physiologic and/or atraumatic in origin is not an area in which I have expertise. Thus, while there may be non-traumatic medical explanations for some or all of the findings in this case, I do not have evidence or expertise to identify or evaluate such causations. As such, I will be focusing on the proposed physical trauma precipitated mechanisms. If it is shown that the head injuries or pathologies in this case were not predominantly traumatic in nature, than these analyses are of little relevance in the evaluation of this case.

Consideration 1: Accidental Fall off Couch

17. The people closest to the incident, Terry Ceasor and Cheryl Genna, reported an accidental fall. Accordingly, it is deserving of examination. The question is whether a fall from the sofa could have resulted in the head injuries reported for Brenden.
18. Case studies of accidental short falls resulting in serious and even fatal head injury are available in the literature. (Aoki 1984, Hall 1989, Smith 1996, Plunkett 2001, Gardener 2005).
19. Of particular relevance to this case is the Plunkett study of 2001. Plunkett reports case studies of 18 fatally head injured children who suffered their injuries as a result of relatively short-distance falls. As a result of these fatal falls, some of which were witnessed by non-caretakers and one of which was videotaped, the children presented a range of documented injuries, including skull fracture, subdural hematoma, bilateral retinal hemorrhage, vitreous hemorrhage, and papilledema. Of the 6 cases for which a fundoscopic exam was reported, four of the six children exhibited bilateral retinal hemorrhage.
20. Case study #5 in the Plunkett study is of particular relevance. The 23 month old child in that study fell from a play structure to a carpeted floor and suffered an ultimately fatal subdural hematoma with midline shift and bilateral retinal hemorrhage. The grandmother of the child in the study videotaped the fall, so the exact nature of the fall was well documented. I am the lead author of a peer

reviewed scientific publication quantifying the biomechanical exposure the child's head experienced as a result of this fall. (Van Ee et al. 2009). Using the principles of accident reconstruction and state-of-the-art test devices, the mechanics of the fall as observed on the videotape were investigated in the laboratory. The initial height of the top of the child's head prior to falling was approximately 49-51 inches above the floor. The child pivoted and fell head first (arms leading) to a carpeted floor below, resulting in a right-frontal head impact.

21. For comparison purposes, Brenden was approximately 33 inches in height at the time of his reported fall, and the height of the top of the sofa cushions was reported to be 17 inches. If Brenden was standing on top of the sofa at the time of the fall, it is possible that the top of his head was nearly 50 inches in height and was therefore comparable to the fall height of the fatally injured child reported by Plunkett in case study #5. Since no one actually witnessed Brenden's fall, his exact fall dynamics and the nature of his head impact can only be estimated based on available measurements.
22. While Brenden's reported fall was of similar height, it should also be considered that Brenden was seven months younger than the 23 month old child reported by Plunkett. As we mature, the skull fuses, providing a more secure shell around the brain, and the resistance of the head to impact injury increases. Thus, children are more vulnerable to airbag related head injuries than adults, and current motor vehicle standards employ lower injury thresholds for children.
23. In general, a 16 month old child would be at greater risk for head injury for a given exposure than a 23 month old child. It is also unknown how much lower the height would have had to be for the 23 month old child reported in Plunkett #5 to have survived her fall. All we know is that a 49-51" height was enough to result in a fatal head injury. In view of this well documented fall reported by Plunkett and analyzed by myself and my co-authors, the comparable fall reported for Brenden presented a risk of serious or even fatal head injury and cannot be dismissed as a possible and even likely explanation for his head injuries.
24. In addition to Plunkett, other professionals point out that, although rare, low level falls can result in serious or even fatal head trauma, including subdural and retinal hemorrhage. (Aoki 1984, Hall 1989, Smith 1996, Gardener 2005). Hall describes 18 children who died from falls of 3 feet or less. Some of these falls occurred from a parent's arms while others occurred while children were running or when they fell from furniture. Two of these incidents occurred in medical facilities: one child fell while running down the hall in a medical facility and another fell from a doctor's chair.
25. In addition to serious intracranial injury reported in well documented accidental low level falls, in some cases in which the physicians have examined the eyes, bilateral retinal bleeding has been noted. These overlaps in patient presentation

between accidental and abusive injury may make it difficult to differentiate between accident and abuse etiologies. While making the task more difficult, in incidents of unknown etiology, it is imperative that these data be considered in any given case in the interest of justice.

26. Some clinical physicians have been led to believe that short falls do not result in significant linear and angular accelerations. In reality, short falls can result in both significant linear and angular accelerations. As a demonstration, I am attaching a short test video demonstrating a backward fall off a sofa. In this demonstration, a CRABI-12 crash dummy (size of a 1 year old child) is shown falling backward off a sofa and onto a linoleum floor. The fall is videotaped using a high speed video camera at a rate of approximately 500 frames per second (more than 16 times faster than a conventional video camera). When the head first impacts the floor, the head rotates forward in a chin-to-chest direction. The angular accelerations produced in this fall are significant and much larger than those produced in a human shake scenario. The head linear and angular accelerations resulting from the laboratory investigation of this sofa fall were consistent with the production of serious head trauma and far exceeded those produced in maximal shaking.

Consideration 2: Abuse

27. Based on a review of the current scientific data, the hypothesis that shaking without impact is likely to result in injurious levels of angular acceleration/deceleration cannot be supported. It is much more likely that vigorous abusive shaking of a child without impact would result in upper cervical spine or cervical cord injury and gripping style chest injuries.
28. Within the community of impact biomechanics, the statement published by Duhaime et al. in 1987 in the Journal of Neurosurgery is still valid: "It was concluded that severe head injuries commonly diagnosed as shaking injuries require impact to occur and that shaking alone in an otherwise normal baby is unlikely to cause the shaken baby syndrome." Certainly there are medical review articles and hypothesis put forward that contradict this position. However, no reliable scientific data has been documented to refute this finding from 1987. Since 1987, additional research has bolstered the conclusion that shaking alone is unlikely to directly result in angular accelerations consistent with subdural hematoma and diffuse axonal injury. I am also aware of two separate incidents where video tape footage appears to have captured a caregiver shaking a child. In neither case did the child suffer any significant injury.
29. From a biomechanical standpoint, infant anatomy is significantly different than adult anatomy in both proportion and structure. In the adult, the head accounts for approximately 6% of the total body weight. In contrast, the infant head is proportionally larger with respect to the body accounting for nearly 30% of the total body weight at birth. In addition, the skeletal structure changes during the

maturation process. Multiple sections of bone connected by cartilage in a child may become a single bone in a mature skeleton. As the bone sections develop and fuse together, the strength and rigidity of the skeleton increases. These differences affect the injury mechanisms and tolerances of children. Quantifying these effects has been and continues to be the focus of many past and current biomechanical investigations.

30. The current scientific data indicate that human shaking without impact is unlikely to result in subdural hematoma and/or diffuse axonal injury. Further, given the relative weakness of the infant neck and proportionally large head of the infant, violent shaking of an infant by gripping and shaking the chest would likely result in extensive torso and neck injuries prior to subdural hematoma caused by bridging vein rupture.
31. Many in the clinical medical community have been led to believe that manual shaking can give rise to linear and rotational acceleration/deceleration forces that are sufficient to tear bridging veins and that shaking results in greater shear forces than are produced in low level falls. A number of landmark papers have been published quantifying the mechanics of shaking and more recently low level falls and comparing the relative head exposure. (Duhaime et al 1987, Prange et al 2003). Based on Prange *et al* results (shown in Figure 1), the peak rotational accelerations (magnitude proportional to shear forces) for a shake are less than those in a 1 foot fall onto carpet. Thus, comparing the rotational forces or accelerations of a shake to a multistory fall or a high speed motor vehicle accident is without scientific foundation and is wholly misleading.

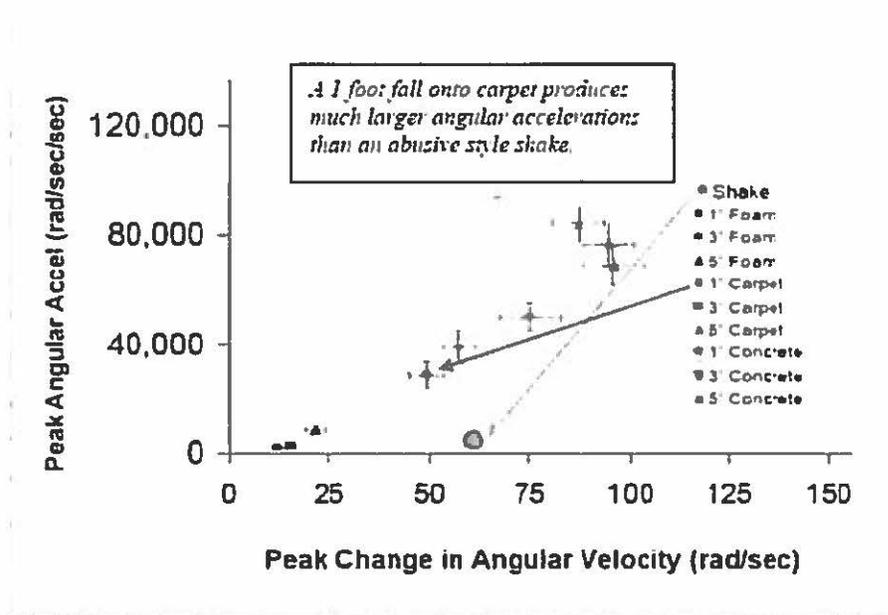


Figure 1: Comparison of the head trauma exposure for short falls onto different surfaces and abusive style shaking. Even a one foot fall onto carpet produces much larger head angular accelerations than shaking does. Figure adapted with permission from M. Prange (*Biomechanics of traumatic brain injury in the infant, Dissertation: University of Pennsylvania, 2002*).

32. Based on the current literature (Prange et al. 2003) and my own research, short falls have the potential to create significantly higher angular accelerations than shaking and would be much more likely to account for the shear related injuries to bridging veins or axons that some physicians associate with shaking.
33. It should be noted that if Brenden's medical condition was traumatic in nature and a result of abuse, then an intentional direct head impact by an object impacting his head or his head impacting another blunt object would be consistent with his resulting injury. Any exposure resulting in comparable or greater head accelerations than the fall reported by Plunkett could result in significant risk of a severe head injury. However, since at most only minimal bruising or swelling was noted on Brenden's scalp and no other significant external injury to the head or body was noted in the medical record, any abusive trauma, if it did occur, was likely similar in exposure to that which could occur as the result of a simple fall off the couch.
34. A head injury alone cannot differentiate intent, only level of exposure. The injuries, as noted in the medical record, appear to be consistent with the accidental history provided by Mr. Ceasor and Ms. Genna. I do not see anything in the records that would suggest that the injuries were abusive rather than accidental.

Comments on the Testimony of Dr. Gilmer-Hill

35. Dr. Gilmer-Hill, a pediatric neurosurgeon, testified as a witness called by the prosecution on the subject of Shaken Baby Syndrome (SBS).
36. Dr. Gilmer-Hill described SBS as violent shaking of a child, generally under age 2, causing the brain to slam back and forth and a bridging vein(s) to tear, resulting in a subdural hematoma. (Tr. 434: 1-18). The doctor went on to testify that the child is usually struck as well, or slammed down on a sofa or soft surface, or even against a wall or thrown up against the ceiling.

Comment: Research has shown that abusive style shaking does not result in head accelerations consistent with bridging vein rupture. Articles published in the Journal of Neurosurgery by Duhaime and colleagues (Duhaime 1987, Prange 2003) have shown that maximal exertion manual shaking of an infant sized test device (smaller and easier to shake than a 16 month old) produces head accelerations less than those produced in a 1 foot fall onto carpet. The rotational accelerations of the shaking exposure was not consistent with the tearing of bridging veins. As shown in Figure 2, these authors' data also shows that slamming the test device onto a soft mattress-like surface resulted in head accelerations less than those produced in a 1 foot fall onto carpet. Clearly, if a child is abused resulting in a high velocity head impact onto a hard surface such as a floor, table, wall, or ceiling, the risk for head injury is great.

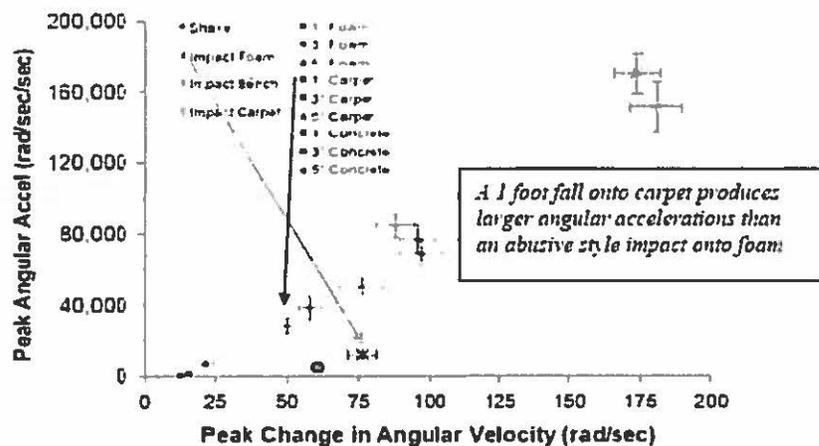


Figure 2: Comparison of the head trauma exposure for short falls onto different surfaces and an inflicted impact onto a soft surface – a foam mattress like surface. Even a one foot fall onto carpet produces much larger head angular accelerations than shaking does. Figure adapted with permission from M. Prange (Biomechanics of traumatic brain injury in the infant, Dissertation: University of Pennsylvania, 2002).

37. Dr. Gilmer-Hill testified that the only mechanism that could result in subdural hematomas and retinal hemorrhaging was abuse or intentional injury. (Tr. 435: 17-20).

Comment: Witnessed and well documented falls, including the Plunkett videotaped fall, have shown that short falls can result in serious and even fatal head injuries including subdural and retinal bleeding. This observation has been confirmed in subsequent biomechanical papers as well as the recent reconstruction of the videotaped fall reported by Dr. Plunkett.

38. Dr. Gilmer-Hill testified that subdural hemorrhage, brain-swelling and midline shift are only seen in accidents such as falls from second story buildings or high speed motor vehicle accidents and cannot be caused by an accidental injury such as a fall from a couch onto a carpeted floor. (Tr. 456: 1-12, 456: 17-25, 457: 1)

Comment: The case studies reported by Plunkett detail head injuries, including subdural hemorrhage, brain swelling, and midline shift, from short distance falls. All these injuries were present in the videotaped fall reported in Plunkett case study #5. Other authors also report these and other injuries resulting from short distance falls.

39. Dr. Gilmer-Hill testified about studies from the University of Pennsylvania in the 1980's and 1990's that were, in her words, "trying to prove these injuries could have happened accidentally". She summarized these findings as showing that shaking or possibly shaking/impact were the only mechanisms that could result in these patterns of injury. (Tr. 435:13-20). Dr. Gilmer-Hill further relied on University of Pennsylvania researcher Ann-Christine Duhaime's studies as her basis for showing that a shaking incident has much more force than even a 5'-6' fall. (Tr. 478: 22-25, 479: 1-18).

Comment: Dr. Gilmer-Hill distorted the findings of Duhaime and colleagues reported in the Journal of Neurosurgery in 1987 and expanded upon in the Journal of Neurosurgery in 2003. Duhaime is an author in both studies. (Duhaime 1987, Prange 2003). As discussed in paragraphs 31 and 32, a 1 foot fall onto carpet produces larger head accelerations than abusive maximal force shaking of an infant sized test device. Further, as set forth above, in Duhaime's 1987 study, the authors concluded that " severe head injuries commonly diagnosed as shaking injuries require impact to occur and that shaking alone in an otherwise normal baby is unlikely to cause the shaken baby syndrome."

40. Dr. Gilmer-Hill relied only on American neurosurgical literature (Tr. 474: 4-19, 475: 11-14, 483: 9-25, 484: 1-9).

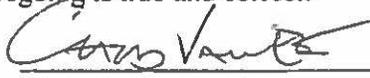
Comment: Dr. Gilmer-Hill's complete reliance on American neurosurgical journals and neglect of journals of forensic pathology, neuropathology, biomechanics and pediatrics, as well as all British journals, was detrimental to

her ability to evaluate abusive versus accidental etiologies of injury. Many of the studies in the broader medical research discuss the occurrence of severe head injury in short distance falls and the factors that must be considered in attempting to differentiate between accidental and abusive causation of head injuries. Even within the literature that she did appear to review, Dr. Gilmer-Hill distorted the findings of Duhaime and her colleagues as reported in the Journal of Neurosurgery in 1987 and 2003. (Duhaime 1987, Prange 2003).

Conclusion

- 41. The injuries noted in the medical records are consistent with the accidental history provided by Mr. Ceasor.
- 42. The testimony provided at trial was contrary to the head injury literature available at the time of Mr. Ceasor's trial in 2005. If I had been asked to testify, I would have provided the information that I provided in this affidavit.

I swear under penalty of perjury that the foregoing is true and correct.



 Chris A. Van Ee, Ph.D.

Subscribed and sworn to before me this 27th day of January, 2010.



 Notary Public in and for the
 State of Michigan

My commission expires: May 3, 2015

JENNIFER SIMMONS Notary Public, State of Michigan County of Wayne My Commission Expires May, 03, 2015 Acting in the County of <u>Washtenaw</u>
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Professional Specialization

Impact biomechanics and accident reconstruction research to identify mechanisms of injury with application to product safety and design. Injury causation is investigated using a combination of computational modeling, laboratory experimental studies, and investigations of real world accidents to define human kinematics, injury mechanisms, interactions with product components and effectiveness of intervention strategies. Specific areas of focus include automotive and marine accidents, child safety, contact sports injuries; industrial machine accidents, and small power hand tool injury investigations.

Past research and product investigations have included adult and pediatric head and neck injury biomechanics, crash induced injuries to the knee, thigh, and hip; crash induced ruptures of the large vessels of the thorax; injury mechanisms and tolerance of the cervical spine; identifying correlations between thoracic loading, skeletal fractures, and internal organ injuries in crash occupants; identifying injury mechanisms to pregnant automobile occupants, evaluating the performance of current and prototype belt restraint systems; evaluating and refining anthropomorphic test device designs and injury reference values; designing assembly machines for increased operator safety; quantifying the protective performance of football, boxing, and motorcycle helmets; evaluating the effectiveness of protective eyewear in small power tool accidents; quantifying the dynamics of circular, miter, and table saw injuries including blade binding, operator error, and the effectiveness of safety interventions; determination of the sufficiency of machine guarding components; and the cause and nature of slip and fall accidents.

Education

Ph.D. (Biomedical Engineering), Duke University, 2000
Advisor: Barry S. Myers M.D. Ph.D.
B.S. (Mechanical Engineering), Dordt College, 1992

Licensure

Professional Engineer: State of Michigan #6201056733

Professional Background

Principal Engineer: Biomedical and Mechanical Engineering
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2009 - Present

Adjunct Assistant Professor
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2002 - Present

Senior Biomechanical Engineer
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2005 - 2009

Project Engineer
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2002 - 2005

Assistant Research Scientist
University of Michigan Transportation Research Institute, Ann Arbor, Michigan
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Custom Design Engineer

Pella Corporation, Pella, Iowa
1991 - 1992

Engineering Technician

Vermeer Manufacturing, Pella, Iowa
1990

Professional Affiliations, Service, Certifications

Scientific Program Committee: Association for the Advancement of Automotive Medicine (2006-Present)

- o Chairman of the Scientific Program Committee (2009-2010)

Society of Automotive Engineers Occupant Protection Committee (2005-Present)

- o Vice-Chairman of the Automobile Body Activity of the Land and Sea Group (2009-2010)
- o Chairman of the Occupant Protection Committee (2008-2009)
- o Vice-Chairman of Occupant Protection Committee (2006-2008)

Organizer of the Occupant Restraints Session: SAE World Congress (2006-Present)

Co-chairperson of the Biomechanics Session: SAE World Congress 2006

Session Organizer: Dynamics and Control of Biomechanical Systems III, 2009 ASME International Mechanical Engineering Congress & Exposition

Editor: 2009 SAE Occupant Protection and Crashworthiness Technology Collection

Traffic Accident Reconstruction, Northwestern University Center for Public Safety

Child Passenger Safety Technician - The National Standardized Child Passenger Safety Training Program (2006-Present)

Review Panel Member: American Institute of Biological Sciences review of United States Army Aeromedical Research Laboratory (February 2008)

Reviewer for American Institute of Biological Sciences review of proposal submitted to US Army Medical Research and Materiel Command

Reviewer and Review Panel Member, National Institutes of Health (NIH) (2003-2008)

- o Special Emphasis Panel/Scientific Review Group ZRG1 MOSS-F, Musculoskeletal, Oral and Skin Sciences
- o Study Section ZRG1 BDCN-K Clinical Neurophysiology, Devices and Neuroprosthetics / Brain Disorders and Clinical Neuroscience
- o Study Section ZRG1-GRM, Geriatrics and Rehabilitation Medicine
- o Study Section MRS, Musculoskeletal Rehabilitation Sciences
- o Study Section ZRG1-SBDD, Rehabilitative Medicine

Reviewer, SAE Congress:

- o Biomechanics
- o Occupant Restraints
- o Side Impact, Rear Impact and Rollover

Reviewer, Accident Analysis and Prevention

Reviewer, Traffic Injury Prevention

Reviewer, ASME: Occupant Protection & Biomechanics

Reviewer, Journal of Biomechanics

Invited Reviewer: Stapp Car Crash Journal 2009

Judge, ASME PhD Student Paper Competition (Summer 2007)



Member, American Society of Biomechanics (ASB)
Member, American Society of Mechanical Engineers (ASME)
Member, Society of Automotive Engineering Society (SAE)
Member, Association for the Advancement of Automotive Medicine (AAAM)

Honors and Awards

John Paul Stapp Award
Best paper at the 2008 Stapp Car Crash Conference

UMTRI Best Publication Award
University of Michigan Transportation Research Institute best publication award for 2004

UMTRI Best Publication Award
University of Michigan Transportation Research Institute best publication award for 2003

John Paul Stapp Award
Best paper at the 2000 Stapp Car Crash Conference. The paper was voted the most significant contribution in the field of impact biomechanics relating to the reduction of injuries in automotive transportation.

Stapp Association Student Award
Most outstanding student presentation at the 2000 Stapp Car Crash conference.

Ralph H. Isbrandt Automotive Safety Award
Best paper presented to the Society of Automotive Engineers on the subject of Automotive Safety Engineering for the year 1995.

Arnold W. Siegel Award
Society of Automotive Engineers' award for the most outstanding paper presented at the 1995 Stapp Car Crash Conference.

Duke University Research Fellowship
National Science Foundation Fellowship Committee Honorable Mention
Dordt College Merit Scholarship

Publications

"Exploring the Role of Lateral Bending Postures and Asymmetric Loading on Cervical Spine Compression Responses", 2009 ASME International Mechanical Engineering Congress & Exposition, IMECE2009-12911, (with D Toomey, M Mason, W Hardy, K Yang, J Kopacz).

"Evaluation and Refinement of the CRABI-6 Anthropomorphic Test Device Injury Criteria for Skull Fracture", Proceedings 2009 ASME International Mechanical Engineering Congress & Exposition, IMECE2009-12973, (with B Moroski-Browne, D Raymond, K Thibault, W Hardy, J Plunkett).

"Child ATD Reconstruction of a Fatal Pediatric Fall", 2009 ASME International Mechanical Engineering Congress & Exposition, IMECE2009-12994, Accepted (with D Raymond, K Thibault, W Hardy, J Plunkett).

"Development of Biomechanical Response Corridors of the Head to Blunt Ballistic Temporo-parietal Impact," Journal of Biomechanical Engineering, September 2009, Vol. 131 (with DE Raymond, GS Crawford, CA Bir).

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- "Use of Computational Models in Marine Accident Reconstruction", 2008 TASS Americas MADYMO Users Meeting, April, Detroit, MI (with Robert Taylor).
- "The Effect of Soft Tissue On The Biomechanics Of Skull Fracture Due To Blunt Ballistic Impact: Preliminary Analysis and Findings" (Abstract) 2008 Summer Bioengineering Conference, June 25-29, 2008 (with D. Raymond, G. Crawford, C. Bir).
- "Biomechanics of Temporo-Parietal Skull Fracture From Blunt Ballistic Impact" (Abstract) 2008 Summer Bioengineering Conference, June 25-29, 2008 (with D. Raymond, G. Crawford, C. Bir).
- "Biomechanics of Blunt Ballistic Impacts to the Head and Fracture-Specific Injury Criteria Development" (Abstract) American Academy of Forensic Sciences 60th Annual Meeting, February 18-23, 2008 (with D. Raymond, G. Crawford, and C. Bir).
- "Biomechanics of Blunt Ballistic Impacts to the Forehead and Zygoma" (Abstract-Poster) American Academy of Forensic Sciences 60th Annual Meeting, February 18-23, 2008 (with G. Crawford, D. Raymond, and C. Bir).
- "Head Exposure Levels in Pediatric Falls" (abstract-poster) National Neurotrauma Society Meeting, 2007 (with K. Monson, C. Sparrey, L. Cheng, and G. Manley).
- "Dynamic Biaxial Tissue Properties of the Human Cadaver Aorta," Stapp Car Crash Journal, Vol. 50, November 2006 (with C.S. Shah, W.N. Hardy, M.J. Mason, and K.H. Yang, R. Morgan, and K. Digges).
- "Study of Potential Mechanisms of Traumatic Rupture of the Aorta Using In Situ Experiments," Stapp Car Crash Journal, Vol. 50, November 2006 (W.N. Hardy, C.S. Shah, J.M. Kopacz, K.H. Yang, R. Morgan and K. Digges).
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- "Safety Restraint System Physical Evidence and Biomechanical Injury Potential Due to Belt Entanglement," SAE Paper 2006-01-1670, 2006 SAE World Congress (with D.E. Toomey and M.E. Klima).
- "High-Speed Biaxial Tissue Properties of the Human Cadaver Aorta," Proceedings of IMECE05 - 2005 ASME International Mechanical Engineering Congress, November 2005. (with C.S. Shah, M.J. Mason, K.H. Yang, W.N. Hardy, R. Morgan, and K. Digges).
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- "Mechanical Properties and Anthropometry of the Human Infant Head," Stapp Car Crash Journal, 2004 (with M.T. Prange, J. F. Luck, A. Dibb, R. W. Nightingale, and B. S. Myers).
- "Cervical-spine Geometry in the Automotive Seated Posture: Variations with Age, Stature, and Gender," Stapp Car Crash Journal, 2004 (with K. D. Klinich, S. Ebert, C. Flannagan, M. Prasad, M. P. Reed, and L. W. Schneider).



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- “Evaluation and Refinement of the CRABI-6 Anthropomorphic Test Device Injury Criteria for Skull Fracture”, 2009 ASME International Mechanical Engineering Congress & Exposition, November 18, 2009.
- “Child ATD Reconstruction of a Fatal Pediatric Fall”, 2009 ASME International Mechanical Engineering Congress & Exposition, November 18, 2009.
- “Use of Computational Models in Marine Accident Reconstruction”, 2008 TASS Americas MADYMO Users Meeting, April, Detroit, MI
- “Pediatric Head Injury: Injury Mechanisms and Injury Tolerance”, Invited Lecturer for BME 7810 – Forensic Bioengineering, Wayne State University, November, 2007.
- “Principles of the Biomechanical Analysis of Infant Brain Injury” and “Case Studies in Infant Brain Injury Analysis,” co-presenter with Kirk Thibault at the EBMS Symposium – An Evidence-Based Analysis of Infant Brain and Skeletal Injury, May 2007.
- “Characterizing Pediatric Head Injury Risk: Automotive Accidents, Falls, and Shaking,” Invited Keynote Speaker: 15th Annual Meeting of the Rachidian Society, Kona, HI, February 2007.
- “Tensile Tolerance of the Cervical Spine” Invited Keynote Speaker: 15th Annual Meeting of the Rachidian Society, Kona, HI, February 2007.
- “Safety Restraint System Physical Evidence and Biomechanical Injury Potential Due to Belt Entanglement,” co-presenter with M. Klima, SAE World Congress, Detroit, MI, April 2006.
- “Biomechanics, Falls, and Shaken Baby Syndrome,” Guest Lecturer for BME 7995 – Forensic Bioengineering, Wayne State University, October, 2005.
- “Trial Techniques and Strategies: Making the Most of Your Experts,” co-presenter with Jeffrey Weiner, Florida Bar Continuing Legal Education Seminar, Miami, FL, January 21, 2005.
- “Use of Computer Models in Forensic Investigations of Human Kinematics: Examples from Alpine Skiing and Marine Accident Reconstruction”, AmeriPAM Nov 3, 2004.
- “Marine Accident Reconstruction: Forensic Engineering and Biomechanics” Wayne State University, June 7, 2004.
- “Biomechanics and Physical Restraint, An Analysis of the Mandt System.” Dallas, TX, April 22, 2004.
- “Rollovers, Neck Injury, and Defining the Role of Lateral Bending in Compressive Neck Injury.” Wayne State University, March 15, 2004.
- “Development of an Experimental Protocol to Quantify the Tolerance of the Hip to Axial Femur Loading.” The 29th International Workshop on Human Subjects for Biomechanical Research. San Antonio, TX, November, 2001.
- “Head and Cervical Spine Geometry in the Automotive Neutral, Flexion, and Extension Postures.” Ford Motor Company, Dearborn, MI, September, 2001.



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- “The Effects of Postmortem Time and Freezer Storage on the Mechanical Properties of Skeletal Muscle.” The 42nd Annual Stapp Car Crash Conference, Phoenix, AZ, November 2-4, 1998.
- “The Effects of Postmortem Time and Freezer Storage on the Mechanical Properties of Skeletal Muscle.” The 8th Injury Prevention Through Biomechanics Symposium, Detroit, MI, May 7-8, 1998.
- “Measurement of the Structural and Material Properties of Mammalian Skeletal Muscle.” The 5th Injury Prevention Through Biomechanics Symposium, Detroit, MI, May 4-5, 1995.

Last Update: November 2009

APPENDIX D

Federal District Court Order, dated May 12, 2017

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**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION**

TERRY CEASOR,

Petitioner,

-vs-

JOHN OCWIEJA,

Respondent.

CASE NO. 5:08-cv13641

HON. JOHN CORBETT O'MEARA

MAG. R. STEVEN WHALEN

STIPULATED ORDER

The Court finds that an evidentiary hearing in the District Court is unnecessary because the parties stipulate that appellate counsel's deficient performance prejudiced Petitioner because appellate counsel failed to litigate in state court a claim of ineffective assistance of trial counsel that was reasonably likely to succeed. The Court makes no finding on whether the underlying claim of ineffective assistance of trial counsel will ultimately be successful.

Therefore, the writ of habeas corpus is **GRANTED**.

It is further **ORDERED** that the Michigan Court of Appeals shall, within 60 days, grant the Petitioner a new direct appeal of right.

Date: May 12, 2017

s/John Corbett O'Meara
United States District Judge

Approved as to Form and Content by:

*/s/ David A. Moran (w/permission)
Attorney for Petitioner*

*/s/ Andrea Christensen-Brown
Attorney for Respondent*

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APPENDIX E

Trial Court Order, dated August 30, 2017

STATE OF MICHIGAN
IN THE CIRCUIT COURT FOR THE COUNTY OF ST. CLAIR

PEOPLE OF THE STATE OF MICHIGAN
Plaintiff,

-vs-

Case No. 05-000220-FH
HON. MICHAEL L. WEST

TERRY LEE CEASOR
Defendant.

ORDER

On July 17, 2017 Defendant, Terry Ceasor filed a motion for new trial claiming that his trial counsel was constitutionally ineffective for failing to seek funds pursuant to MCL 775.15 from the Court to hire an expert witness. The procedural history of this case is lengthy and has been adequately set forth by the parties in their respective briefs and will not be repeated here.

The parties agree that Defendant's trial counsel recognized the importance of an expert in this case. A defense expert had been consulted and agreed to review the file without prior payment in anticipation of being retained on the file. When it came time to hire the expert, Defendant advised his trial counsel he did not have the necessary funds. Consequently, no expert was retained and Defendant proceeded to trial without a defense expert.

The sole question raised in Defendant's motion is whether Defendant's trial counsels' performance was objectively unreasonable when he did not seek funds from the Court to pay for an expert. That question cannot be answered without additional facts being established regarding the nature and extent of Defendant's retained attorney-client

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relationship and specifically the issue of Defendant's alleged indigence. Defendant's affidavits submitted in support of his motion suggesting he was indigent does not make it so. Even if they did, the issue here is not what Defendant believed about his financial position, but rather what his attorney believed and whether he acted reasonably in connection with that knowledge.

Accordingly, an evidentiary hearing is necessary consistent with *People v Ginther*, 390 Mich 436 (1973) to determine whether trial counsel's failure to request public funds from the Court to pay for an expert witness fell below an objective standard of reasonableness. Until that question is resolved it is premature to consider the prejudice element of *Strickland v Washington* and the same will not be considered by the Court at the evidentiary hearing ordered herein. The parties may contact the Court's assignment clerk within the next seven days regarding a date and time for said hearing.

IT IS SO ORDERED.

August 30, 2017



Michael L. West
Circuit Judge