

NO.

IN THE SUPREME COURT OF THE STATE OF WASHINGTON

STATE OF WASHINGTON, Petitioner

v.

HEIDI CHARLENE FERRO, Respondent

FROM THE COURT OF APPEALS, DIVISION II
PERSONAL RESTRAINT PETITION NO.46310-5-II

PETITION FOR REVIEW

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IDENTITY OF PETITIONER

The State of Washington asks this Court to accept review of the published decision set forth in the Decision section below.

DECISION

Petitioner, State of Washington, seeks review of the Court of Appeals, Division II's published decision filed on January 5, 2016 (Motion to Reconsider denied on March 3, 2016), reversing her 2003 conviction for assault of a child in the first degree and ordering a new trial. A copy of the opinion of the Court of Appeals and the order denying reconsideration is attached at Appendix B.

ISSUES PRESENTED

- I. The Court of Appeals erred in reversing the conviction and ordering a new trial based on newly discovered evidence where the *Williams* factors for newly discovered evidence are not satisfied and where the Court's opinion conflicts with previous published decisions of the Court of Appeals.**
- II. The Court of Appeals erred in reversing the conviction based on newly discovered evidence without first ordering a reference hearing where the Superior Court can determine the credibility and weight of the new expert opinions.**

STATEMENT OF THE CASE

The State incorporates and adopts the factual statement set forth by the Court of Appeals in its original decision in this case, found in *State v.*

Fero, 125 Wn.App. 84, 104 P.3d 49 (2005) and attached as Appendix A. The State has added a short statement of supplemental facts below. The State does not agree with the factual statement set forth by the Court of Appeals in the decision below, *In re Fero*, --Wn.App.--, --P.3d--, (2005), attached as Appendix B¹. The State also adopts its factual statement from the Motion to Reconsider, attached as Appendix C.

Brynn Ackley and her four year-old brother, Kaed, were occasionally watched by Heidi Fero, a friend of Brynn and Kaed's father, Jason Ackley, while their parents worked during swing shift hours. 3/11/03 RP, p. 116, 3/17/03 RP, p. 69-70. Fero was twenty-four years old and had two children of her own; one year-old Derrick and five year-old Rachel. *Id.* at 66. Fero also had a job at a furniture store. *Id.* at 65. Fero did not babysit Brynn and Kaed in the two weeks prior to Brynn's near murder at Fero's home on January 7, 2002. *Id.* at 72. In fact, Fero had been seriously ill in the two weeks prior to Brynn's assault, having been bedridden and at one point being hospitalized for dehydration. 3/11/03 RP, p. 89, 3/12/03 RP, p. 159-60, 173. Fero's apartment was messy to the

¹ Each and every fact listed in paragraphs 4, 5, 6, 7, 9, and 10 of the Court's opinion below came from Fero or Dustin Goodwin, her partner. In reaching its verdict, the jury necessarily rejected this testimony. It is not the role of the reviewing Court to make de novo credibility determinations or to substitute Fero's "facts" for the actual facts relied upon by the jury. It is not the proper function of the Court of Appeals to say that the jury, who saw Fero testify, should have believed her. Credibility determinations are to be made solely by the trier of fact, and may not be revisited on appeal. *State v. Camarillo*, 115 Wn.2d 60, 71, 794 P.2d 850 (1990).

point of disarray on January 7, to the point that her attorney sought to prevent the jury from seeing a videotape depicting the layout of the apartment because the apartment was “slovenly” and “embarrassing.” 3/11/03 RP, p. 6. Fero, while talking to the police after Brynn was rushed to the hospital, felt the need to apologize to them for the condition of the apartment, saying she’d been sick. *Id.* at 95. Fero’s partner and father of her children, Dustin Goodwin, refused, by his own admission, to help around the house. *Id.* at 173. He expected Fero to do it all. 3/17/03 RP, p. 73. Fero was clearly exhausted and overwhelmed on January 7, 2002.

Breanna Franck picked up Brynn and Kaed from their father’s house after Kaed got out of school that day. 3/11/03 RP, p. 153. Brynn was fine while at her father’s house, running around and had no trouble walking. *Id.* at 165, *State v. Fero*, 125 Wn.App. 84, 90, 104 P.3d 49 (2005). Brynn also had no bruising on her face, no bruising on her pelvic area, and no trouble walking that morning. *Id.* at 153-154, *Fero* at 90. Breanna arrived at Fero’s apartment with her children at around 2:00 p.m. *Fero* at 90. When Breanna arrived at Fero’s apartment she carried Brynn’s car seat in, as usual, and Brynn walked in to the apartment on her own. *Id.* at 165. Brynn did *not*, as the opinion below states, arrive at the apartment in her car seat. The jury heard the competing accounts of how Brynn arrived at the apartment (the other account coming from the biased Dustin

Goodwin, the father of Fero's children), and clearly resolved the factual dispute in the State's favor. "Brynn had neither bruises nor any trouble walking before being left with Fero." *Fero* at 90. Fero arrived home from her job between 2:30 and 3:00 p.m. 3/12/03 RP, p. 159. When she arrived home she was "a little stressed and upset." 3/12/03 RP, p. 177. At that point Dustin left for work and left Fero alone to babysit four kids, aged five and under, for over eight hours. 3/17/03 RP, p. 73-74.

Later, when the paramedics arrived, they found Brynn limp like a rag doll and looking barely alive. 3/11/03 RP, p. 39. Fero was hyper and upset, bouncing around. *Id.* She repeatedly asked "did I do the right thing?" *Id.* Fero told the paramedics that Brynn's four year-old brother had swung Brynn against the wall like a baseball bat. *Id.* at 40. Fero didn't mention Brynn having been injured with any weapons or toys. *Id.* This account of Brynn being swung like a baseball bat disappears from Fero's story after this night.

Fero denied giving Brynn a bath in her statement to Detective Norton. 3/12/03 RP, p. 193. In fact, she told Norton that Brynn had not been upstairs the entire time she'd been at the apartment that day. *Id.* She told Norton that she hadn't even changed Brynn's diaper in the nearly seven hours Brynn had been at her home before calling 911. *Id.* at 194. Fero would later change all of these statements. Fero told Vancouver

Police Officer Scott Telford that she was not good in stressful situations, especially involving children. 3/11/03 RP p. 90. During cross-examination at trial, Fero was confronted with pictures of Brynn in the hospital and refused to say whether Brynn looked like that when she was in Fero's care earlier that day. 3/17/03, p. 117-118. Fero said she couldn't say because there was too much "medical stuff" in the pictures, Brynn was "covered with stuff," and she couldn't see the bruising through the "medical stuff." Id. The jury correctly found the prevaricating Fero not credible.²

Fero was convicted of assault of a child in the first degree and the Court of Appeals upheld her conviction in *State v. Fero*, 125 Wn.App. 84, 104 P.3d 49 (2005). Fero brought this petition in May of 2014, more than eight years after her case became final³ and more than eleven years after she was first convicted.

² The Court of Appeals, as noted, presented several of Fero's claims as fact in its opinion below, even though they were necessarily rejected by the jury. Fero did not, as the Court claimed, see several bruises on Brynn's body when she gave Brynn a bath. Fero initially denied even giving Brynn a bath. When she called Brynn's father, she did not mention bruising on Brynn—much less bruising on her vagina and above her vulva, which is extremely unusual. Fero's statements about seeing bruising on Brynn during the bath came much later, and were only made to her mother and Dustin—not to the paramedics or the police.

³ Fero's case did not become final until February of 2006. Fero was originally given an exceptional sentence of 15 years' confinement based on having attacked a particularly vulnerable victim. The State requested a sentence of 18 years. Because her case was not yet final when *Blakely* was issued, Fero's case fell into the narrow class of cases where resentencing was required, but the State was prevented from presenting aggravating factors to a jury. Thus, Fero fell into the narrow class of defendants for whom an exceptional sentence could not be imposed under any recognized procedure. On retrial, the State will again be free to seek an exceptional sentence.

ARGUMENT IN SUPPORT OF ISSUES PRESENTED

I. The Court of Appeals erred in reversing the conviction and ordering a new trial based on newly discovered evidence where the *Williams* factors for newly discovered evidence are not satisfied and where the Court's opinion conflicts with previous published decisions of the Court of Appeals.

Under RAP 16.4(c)(3), a new trial may not be awarded in a personal restraint petition on the basis of newly discovered evidence unless “[m]aterial facts exist which have not been previously presented and heard, which in the interest of justice require vacation of the conviction [or] sentence.” *State v. Jeffries*, 114 Wn.2d 485,493, 789 P.2d 731 (1990). To determine whether a petitioner has demonstrated that “newly discovered evidence” warrants reversal of her conviction, the evidence is subject to the same test that applies to a motion for a new trial. *State v. Benn*, 134 Wn.2d 868, 886, 952 P.2d 116 (1998) (quoting *In re Pers. Restraint of Lord*, 123 Wn.2d 296, 319, 868 P.2d 835 (1994); *State v. Harper*, 64 Wn.App. 283, 292, 923 P.2d 1137 (1992)). The test for newly discovered evidence is a five factor test set forth in *State v. Williams*, 96 Wn.2d 215, 223, 634 P.2d 868 (1981):

- (1) The evidence must be such that the results will probably change if a new trial were granted.
 - (2) The evidence must have been discovered since the trial;
-

- (3) The evidence could not have been discovered before the trial by exercising due diligence;
- (4) The evidence must be material and admissible; and
- (5) The evidence cannot be merely cumulative or impeaching.

Additionally, because Fero's petition was brought eleven years after she was originally sentenced and over eight years after her amended sentence was imposed, Fero must also satisfy RCW 10.73.100, which requires her to show she acted with reasonable diligence in discovering the evidence *and* in filing the petition.

The absence of any one of the factors compels denial of the motion for new trial or dismissal of the petition. *Williams*, supra, at 223. Fero failed to satisfy each factor in her petition.

I. First, Fero fails to show that her "new" opinions, recently procured from well-compensated professional defense experts, are "evidence" within the meaning of the rule." The law in Washington on the question of whether different scientific opinions applied to facts that were known at trial constitute "newly discovered evidence" is well settled. In *State v. Evans*, 45 Wn.App. 611, 613-14, 726 P.2d 1009 (1986), *rev. denied*, 107 Wn.2d 1029 (1987), the Court of Appeals reversed the trial court's award of a new trial on the basis of a different opinion from an expert the defendant retained after trial. The defendant was convicted of arson and hired new counsel after trial. *Id.* New counsel procured an

expert who definitively opined that the fire was accidental. In reversing the trial court, the Court was concerned with the lack of finality that would accrue in awarding new trials on the basis of different expert opinions applied to facts that were known at trial. The Court said:

In sum, this strikes us as a classic case: the defendant loses, then hires a new lawyer, who hires a new expert, who examines the same evidence and produces a new opinion. We cannot accept this as a basis for a new trial.

Id. at 614-15.

In a concurring opinion in *Evans*, Judge Reed noted that such experts “rarely agree” and what may be a crucial fact to one expert is not to another. *Id.* at 617-18. Judge Reed further noted that prior to granting new trials for new experts to testify,

...we must ask whether all of those defendants who could now unearth a new expert, who finds “new facts”—which if believed by the same jury might cause them to acquit—were denied a fair trial, *i.e.* failed to receive substantial justice. Surely we have to answer in the negative, or finality goes by the boards and the system fails.

Evans, 45 Wn.App. at 617-18. As Judge Reed’s concurrence explains, there can be no finality of a case involving scientific or medical evidence if a new trial, based on different medical opinions, can be obtained with such ease.

In *State v. Harper*, 64 Wn.App. 283, 292, 923 P.2d 1137 (1992), the defendant was convicted of Attempted Murder. At trial he raised the

diminished capacity defense and presented expert testimony in support of his claim. *Id.* at 287. In his personal restraint petition, the defendant presented an affidavit from a new doctor who examined the defendant and gave a different opinion than the expert witness who testified at trial. *Id.* at 290. If credited by the jury, this opinion would probably have changed the result at trial. *Id.* at 291. The Court of Appeals denied the petition, relying on *Evans*, supra: “[W]e have the same situation as in *Evans*, the retention of new counsel, who retains a new expert, who reviews the same evidence, and presents a new opinion.” *Harper* at 294.

In the recent *In re Copland*, 176 Wn.App. 432, 451, 309 P.3d 626 (2013), *review denied* 182 Wn.2d 1009, 343 P.3d 760 (2015) the Court of Appeals reiterated the principle that different, tardily procured expert opinions applied to facts known at the time of trial are not newly discovered evidence: “A new expert opinion, based on facts available to the trial experts, does not constitute newly discovered evidence that could not, with due diligence, have been discovered before trial.”

The Court of Appeals departed from established precedent in holding that Fero produced newly discovered evidence by presenting different expert opinions applied to facts that were known at the time of trial. This type of opinion merely impeaches the testimony offered at trial.

2. Second, Fero failed to show that an opinion like the one she recently solicited was not known to her or her attorney at the time of trial, or could not have been discovered with the exercise of due diligence. The opinion in question, as it relates to Fero's case, is as follows: That a child can suffer a traumatic brain injury and remain lucid and asymptomatic for as long as three days before the sudden onset of symptoms. This is *not* a new opinion. It was an available opinion at the time of trial. It was, in fact, the theory presented by Louise Woodward, the Boston Nanny, at her highly publicized murder trial in 1999. Lucid interval was brought up several times at Fero's trial, both by her retained attorney, Mark Muenster, and by the medical witnesses.⁴ The Court's "new evidence" holding below can be summarized like this: This is an old argument that has gotten better. It is "newly discovered" because it was less meaningful in 2003 than it is now. But even if that were true, neither this Court nor the Court of Appeals has ever applied such a broad construction to the concept of newly discovered evidence. The standard applied below would gut the requirements for obtaining a new trial on the basis of newly discovered evidence.

⁴ Lucid Interval was discussed in the oft-cited 1998 article *Interval Duration Between Injury and Severe Symptoms in Nonaccidental Head Trauma in Infants and Young Children*, M.G.F. Gilliland, 43 J. Forensic Science 1998, 723-725, attached to the State's Motion to Reconsider as Exhibit 4 in Appendix B.

Even if this opinion were not discoverable at the time of Fero's trial in March of 2003, Fero remained out of custody until February 24, 2006 and represented by counsel until February 2, 2006 (date of mandate). This opinion was certainly discoverable during that time. The primary article relied upon by Barnes and Ophoven, the literature review by Donohoe, was nearly three years old by the time Fero's mandate was issued and she ceased being represented by counsel.

In holding that Fero did not and could not have discovered this opinion by the time of her trial and that she acted with reasonable diligence in bringing this petition, the Court of Appeals stated that Fero was excused from the strictures of the due diligence rule because she was "convicted in 2003 and incarcerated at the Washington Corrections Center for Women until her release on July 30, 2014," that she has no medical training and should not be expected to "keep up with the relevant medical literature and case law while incarcerated..." *In re Fero*, slip opinion at 11-12. The Court's reasoning fails.

As noted above, Fero remained out of custody until February 24, 2006. And if Fero could not be expected to "discover" these opinions without medical training, that condition existed up until she filed her petition and presumably will exist in perpetuity. When would she ever be held to a diligence requirement under this standard? What was different in

2014 from, say, 2008? Despite her incarceration Fero was able to retain counsel to file a 226-page personal restraint petition, which was filed two months *before* her release. It should be obvious that in a case involving so many witnesses, two of whom were very young children who were at the apartment that night, the passage of time is devastating to the State. If Fero could have brought this petition even six or seven years before she did she should be precluded from relief because the memories of the State's witnesses would be expected to fade over time. In fact, the primary case the Court of Appeals relied on in reversing Fero's conviction, Wisconsin's *State v. Edmunds*, 308 Wis.2d 374, 746 N.W.2d 590 (2008), was decided in 2008. Notably, Fero's declaration attached to her petition does not state that she had no access to a law library or internet in DOC. Her declaration doesn't state that in the time prior to her incarceration in 2006, she had no access to the internet. She didn't need "medical training" to visit Google and discover that people like Barnes, Ophoven, and law professor Deborah Tuerkheimer were theorizing that there is no such thing as people shaking babies—or causing injury when they do. All she needed for that was the internet (or a family member such as her husband, Dustin, with internet). (The Google search "innocence project Washington state" incidentally, takes a user straight to the website of her current attorneys). One who is innocent of the crime for which she was imprisoned would presumably

make this a priority. The “evidence” at issue here is documentary, opinion piece-type evidence—not witness gathering and boots and the ground investigation. But perhaps most notable is the lack of a declaration from Mark Muenster, her trial attorney. Again, the Court of Appeals below made a necessary finding that Muenster *did not know* about lucid interval when he tried this case. Where is the evidence of that? Are we to believe that a prominent criminal defense attorney like Mark Muenster didn’t follow the Louise Woodward trial? That he had never heard of the concept of lucid interval, such that he would not be expected to make even a minimal investigation into the concept? The lack of a declaration from Muenster leads to the conclusion that such a declaration would have been unfavorable to Fero’s claim.

The Court of Appeals erred in holding that Fero acted with reasonable diligence in “discovering” this opinion and in bringing this petition. The Court erred in finding, without any evidence, that Fero’s attorney was not aware of this available argument at the time of trial, nor could he have been with the exercise of due diligence.

3. Third, this “new” opinion applied to facts that were known at trial would not probably change the result on re-trial and is not material. In order to say these tardy opinions would probably change the result on re-trial, they must be relevant to the facts of this case. But they aren’t.

In considering whether newly discovered evidence warrants a new trial, the Court must consider whether the evidence will probably change the result of the trial. "...[W]e do not consider what effect the newly discovered evidence may have on the defendant's case, but rather we weigh the newly discovered evidence against the strength of the State's evidence. *See State v. Peele*, 67 Wash.2d 724, 732, 409 P.2d 663 (1966)." *In re Faircloth*, 177 Wn.App. 161, 168, 311 P.3d 47 (2013). When the State has presented "convincing evidence of guilt and the defendant little or no evidence of innocence, a new trial should not be granted ... upon the offer of any new evidence unless it appears that the newly discovered evidence is of such significance and cogency that it will probably change the result of the trial." *Faircloth* at 168, citing *Peele* at 732.

As the State noted in its motion to reconsider, this petition is an ineffective assistance of counsel claim masquerading as a newly discovered evidence claim. In a child abuse case in which the head trauma is the *only* evidence of assault, lucid interval can be relevant where it would expand the universe of suspects. It is a well-recognized trial strategy to argue that the act that caused the head trauma did not occur while the child was in the defendant's care. The opinion recognizes this, in holding that the potential for a so-called "lucid interval" would probably change the result in this case—because Fero could put the blame on one of

Brynn's parents rather than herself (or a four year-old). But this holding is incorrect for the same reason that Fero did not receive ineffective assistance of counsel: Brynn Ackley was assaulted *at Heidi Fero's house*. "Lucid interval," much like the litany of other alternative theories Barnes and Ophoven point to in their declarations, has *no relevance* to this case.

This is not merely an abusive head trauma case. This case involved a life-threatening, recent assault in which Brynn was seriously beaten about the face and torso and sustained a "significantly displaced" spiral fracture to her tibia that would have prevented her from walking. The State asks this Court to review the pictures of Brynn taken in the hospital, which are attached as an appendix to the Motion to Reconsider. The pictures reveal that Brynn was brutally assaulted, and that the assault was recent. Indeed, Brian Dohman, the lead paramedic who initially treated Brynn that night, testified that during the twenty minute ambulance ride Brynn's bruising progressed rapidly, especially around her face. 3/11/03 VRP, p. 23. Dr. Lukshcu, the pediatrician with special training in child abuse assessment, testified the pattern of bruising could have been consistent with a hand grabbing Brynn's face. *Id.* at 227. Dustin Goodwin testified that Brynn had *no* noticeable bruising to her face when her mother brought her over. 3/12/03 VRP, p. 158. During the 7:34 p.m. phone call Fero placed to Brynn's father, she did not mention bruising on

Brynn. 3/11/03 VRP, p. 120. Moreover, it is obvious that Brynn did not arrive at Fero's apartment in that condition. No reasonable person would receive a child in that condition and let it pass without comment or action. During the State's devastating cross-examination of Fero she refused to state, when forced to look at the hospital pictures, whether Brynn looked like that when she was in Fero's care that day. She was trapped: Either the injuries occurred at her apartment (which is exactly what happened, and which makes "lucid interval"/blame the parents irrelevant), or the jury would have to believe that Fero arrived home to babysit Brynn and found Brynn looking like she'd just lost a boxing match with an adult—and Fero said nothing about it. Finally, Brynn's spiral leg fracture indisputably occurred at Fero's house. Brynn walked into Fero's apartment that day, and Fero's tardy claims otherwise were made to tailor her story to the facts as they were coming out. Fero's daughter, Rachel, testified that Brynn was running around and playing with her and Kaed that day/night (3/17/03 RP p. 48), which precludes Brynn having arrived at the apartment with a displaced spiral fracture to her tibia.

The pictures of Brynn are shocking. The bruising around the vulva, in particular, reveals a vicious assault. It appears that Brynn was kicked—hard—directly against her vagina, sans diaper, with her legs spread, and was either kicked or stomped above the vulva. The impact was so hard

that it caused a laceration. The pictures make it clear why Mark Muenster, Fero's retained attorney, chose not to deny that Brynn was assaulted at Fero's, nor did he try to push back the timing of the assault by arguing "lucid interval"—which was a known concept at the time of trial. To do so would have been ludicrous.

Mr. Muenster had four possible defense theories from which to choose: 1) Accidental infliction of all injuries. The pictures of Brynn, as well as her displaced spiral tibia fracture, precluded this theory. No person would believe it. 2) Intentional infliction of *all* injuries, having occurred up to three days prior to Brynn's arrival at Fero's house. This is the theory in which "lucid interval" would play center stage, and it is nonsense. No one would believe that all of these injuries occurred prior to Brynn's arrival at Fero's, much less three days prior as Ophoven postulates in her far-fetched declaration. 3) Head injury occurring up to three days before Brynn's arrival at Fero's (either by accidental or non-accidental infliction), with remaining injuries occurring at Fero's at the hands of Brynn's four year-old brother, Kaed. This is the "lightning strikes twice" theory, equal to theory #2 in its folly. It would require the jury to believe in unbelievable coincidence; that Brynn was just the unluckiest child in the world. No reasonable juror would believe this, and no competent attorney would argue it. This unreasonable defense, if offered, would rely on "lucid

interval.” 4) Kaed did it—at Fero’s house. This is the defense that Fero selected, and it was the only viable defense. In light of the candid admissions of Kaed’s parents that he could be rough with Brynn, and in light of Kaed’s presence at the apartment for the entire time that Fero was with Brynn (although not a witness to anything that occurred upstairs, where Fero bathed Brynn), this was an excellent trial strategy. That the jury did not agree with it is of no moment.

In addition to the serious bruising, the spiral tibial fracture is a critical piece of evidence in this case, if not the key piece of evidence. That the Court of Appeals gave it such brief mention, and no examination, is mystifying. First, the presence of a long bone fracture coupled with the severe head trauma that Brynn suffered is indicative of non-accidental infliction of *both* injuries. See Motion to Reconsider, Exhibit 2 at Appendix B, p. 968. Second, the fracture was spiral, displaced, and the result of violent twisting or torsional force, according to Dr. Bennett. The declarations of Barnes and Ophoven do not refute this or even address this. Finally, the fracture was sustained *at Fero’s house*. This is not a fact in dispute. It is true that Fero and her partner, Goodwin, made late statements—(statements that were a clear attempt to tailor Fero’s story to the facts)—that were intended to suggest that Brynn arrived at the house

with the fracture. These statements were both provably false and, more importantly, fully heard and rejected by the jury.⁵

In order to conclude these opinions would probably change the result on re-trial, the jury must not only find the opinions credible, but must be willing to entirely overlook the fact that Fero has already set her story in stone: Kaed did it. At retrial, Fero will *again* be changing her story, this time asserting that the head injury was caused by Brynn's mother or father prior to January 7, 2002. How then will she explain the other injuries to Brynn? She already asked her first jury to believe that Brynn arrived at her apartment that day with an already significantly displaced spiral tibial fracture. The jury rejected this. The leg fracture and the severe bruising are critical to this case: If those injuries occurred at Fero's house, no reasonable juror would believe that the head injury was inflicted by a different actor on a different date. Indeed, Fero is not required to even raise this argument at a new trial just because she raises it in this petition. She can simply use this petition as a gateway to re-argue that Kaed, (who is now nineteen years-old and fully grown), is the one

⁵ The State's theory of the case, which it maintains, is that Brynn was likely in such distress after Fero violently twisted her leg and fractured it – possibly during the bath upstairs that Fero initially denied giving Brynn – that Brynn's ensuing crying caused the exhausted, overwhelmed Fero to further violently assault Brynn, resulting in the abusive head trauma as well as the extreme bruising depicted in the photographs of Brynn in the hospital.

who did it—a theory heard and rejected by the jury, and which cannot form the basis of a claim of newly discovered evidence.

For the same reasons that the tardily presented opinions on lucid interval would not probably change the result on re-trial, the opinions are not material. The materiality factor looks at whether the new opinions would have changed the outcome of the trial had they been presented to the jury at the original trial. See *Peele*, supra, at 727. Although this factor overlaps to a degree with the first factor, it is not identical. This factor requires the court to look at the evidence actually presented at trial (the actual testimony, exhibits, and arguments) and determine that the opinions offered would have resulted in an acquittal in spite of everything the jury heard and saw. *Peele* at 730-31. This factor fails. As explained above, this case is not a classic “shaken baby case.” This case involved a brutal, full-body assault on Brynn. There were numerous other injuries in this case beyond the head trauma. The evidence overwhelmingly showed that Brynn suffered this multi-pronged assault at Fero’s apartment. Thus, the question the jury had to decide in this trial was whether Fero committed the assault on Brynn or whether someone else who was at the apartment (i.e., Kaed) committed it. The jury heard testimony from five doctors that it was extremely unlikely that Kaed, a four year-old, had either the strength or developmental ability to inflict these injuries. The tardy

opinions now offered are not material and the Court of Appeals erred in holding they were.

This Court should grant review because the decision below conflicts with several decisions of the Court of Appeals (see RAP 13.4 (b) (2)) and because this petition involves an issue of substantial public interest, to wit: the finality of *any case* involving medical or scientific evidence (see RAP 13.4 (b) (4)).

II. The Court of Appeals erred in reversing the conviction based on newly discovered evidence without first ordering a reference hearing where the Superior Court can determine the credibility and weight of the new expert opinions.

The Court of Appeals granted the personal restraint petition, reversed Fero's conviction, and remanded this case for a new trial without first ordering a reference hearing to determine the credibility of the new opinions brought forth by Fero's hired experts. This was error.

If the Court of Appeals believed that Fero met her burden of demonstrating all five *Williams* factors, the Court of Appeals erred in not ordering a reference hearing before granting relief. The Court of Appeals claims that the declarations of Barnes and Ophoven were "not contested" by the State. This is incorrect and reflects a fundamental misunderstanding of the collateral attack process.

The State is not required to procure, at substantial cost, new experts to refute claims in a personal restraint petition before the court of review has even determined that the new “evidence” is, in fact, evidence (as opposed to impeaching opinion), and that the *Williams* factors and RCW 10.73.100 have been satisfied. There should be no fault to the State for arguing, instead, that the petition is time-barred. More importantly, the Court of Appeals’ opinion misunderstands how credibility determinations are made. If the State had produced competing affidavits, a trier of fact would be required to decide which side to believe. The Court of Appeals cannot make that determination. As in cases involving witness recantations, credibility determinations need to be made by the Superior Court in a reference hearing. See generally *State v. Scott*, 150 Wn.App. 281, 207 P.3d 495 (2009); *State v. D.T.M.*, 78 Wn.App. 216, 221, 896 P.2d 108 (1995). See also *Morse v. Antonellis*, 149 Wn.2d 572, 575, 70 P.3d 125 (2003) (“Juries decide credibility, not appellate courts.”); *State v. Davis*, 25 Wn.App. 134, 138, 605 P.2d 359 (1980) (“[I]t is within the province of the trial court to pass upon the credibility of witnesses in a hearing on the merits under RAP 16.12.”); *State v. Statler*, 160 Wn.App. 622, 632, 248 P.3d 165 (2011) (“[w]hen considering whether newly discovered evidence will probably change the trial’s outcome, the trial court considers the credibility, significance, and cogency of the proffered

evidence.”); *Herrera v. Collins*, 506 U.S. 390, 417, 113 S. Ct. 853, 869, 122 L. Ed. 2d 203 (1993) (“In the new trial context, motions based solely upon affidavits are disfavored because the affiants' statements are obtained without the benefit of cross-examination and an opportunity to make credibility determinations.”)

The Court of Appeals was free to dismiss Fero’s petition if it found that any of the five criteria for granting a new trial on the basis of newly discovered evidence were not met. It was not, however, free to find her experts credible (or to find that a jury would credit their testimony at a new trial), and grant her petition without a reference hearing. The State cannot cross-examine a declaration. Likewise, the only method the State has to “dispute” the defendant’s declarations is to hire experts to produce competing declarations. The State cannot “dispute” a declaration by simply opining, in its Brief of Respondent, that the declarants are not credible.

The characterization of the State as having failed to contest the credibility of Barnes and Ophoven is significant in this case because the Court of Appeals seemed to use that theory to get around the idea that it made a credibility determination it was not otherwise at liberty to make. Alternatively, the Court believed that finding Barnes and Ophoven credible in the first instance was within its prerogative because the State

chose to argue the petition was time-barred due to the *Williams* factors not being met.

The State asks this Court to accept review and hold that while an appellate court may deny a personal restraint petition based on newly discovered evidence if it finds that any one of the five *Williams* factors are not satisfied (or, in the case of an untimely petition, that RCW 10.73.100 is not satisfied), the Court may not *reverse* a conviction on this basis without first remanding the case to superior court for a reference hearing.

The State believes that cross-examination will demonstrate Barnes' and Ophoven's lack of credibility. Cross-examination will reveal what materials they relied on in forming their opinions, which they curiously failed to identify in their declarations. Did they review the pictures of Brynn in the hospital? Did they review her X-rays? Is Barnes credible when he characterizes Brynn's injuries as "normal toddler bruising"? Cross-examination would reveal any personal biases of Barnes or Ophoven (for example, how does Barnes feel about his opinion being characterized as something akin to quackery by the American Academy of Pediatrics?). Cross-examination would reveal the profit motive of Barnes and Ophoven. Nowhere in their declarations do they reveal how much they charge for their defense consultancy services, how much they are

charging Fero, whether any third parties are paying for their services (and, if so, who), or how much they have profited overall in their defense-expert endeavors.

This Court should accept review of this case to clarify the proper role of the appellate court in its initial consideration of a personal restraint petition (see RAP 13.4 (b) (2) and (4)) and in particular, the ability of an appellate court to make de novo credibility determinations about witnesses.

CONCLUSION

The State respectfully asks this Court to accept review of this case under RAP 13.4 (b) (2) and (4) and to reverse the Court of Appeals' award of a new trial. Alternatively, the State asks this Court to order a reference hearing.

DATED this 1st day of April, 2016.

Respectfully submitted:

ANTHONY F. GOLIK
Prosecuting Attorney
Clark County, Washington

By: 
ANNE M. CRUSER, WSBA #27944
Deputy Prosecuting Attorney
OID# 91127

APPENDIX A

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FILED

FEB 02 2006

JoAnne McBride, Clerk, Clark Co

IN THE COURT OF APPEALS OF THE STATE OF WASHINGTON

DIVISION II

STATE OF WASHINGTON,
Respondent,

v.

HEIDI CHARLENE FERRO,
Appellant.

No. 30356-6-II

MANDATE

Clark County Cause No.
02-1-01117-9

Court Action Required

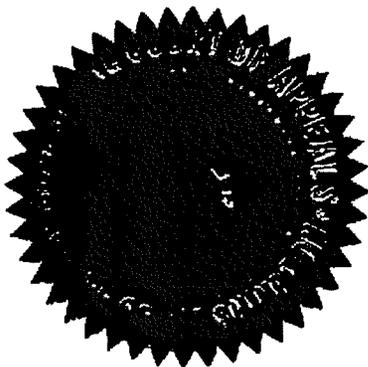
The State of Washington to: The Superior Court of the State of Washington
in and for Clark County

This is to certify that the opinion of the Court of Appeals of the State of Washington, Division II, filed on January 4, 2005 as amended on December 6, 2006 became the decision terminating review of this court of the above entitled case on January 6, 2006. Accordingly, this cause is mandated to the Superior Court from which the appeal was taken for further proceedings in accordance with the attached true copy of the opinion.

Court Action Required: The sentencing court or criminal presiding judge is to place this matter on the next available motion calendar for action consistent with the opinion.

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CR

Page 2 – Mandate
State v. Fero, Case # 30356-6-II



IN TESTIMONY WHEREOF, I have hereunto set
my hand and affixed the seal of said Court at
Tacoma, this 1~~st~~ day of February, 2006.



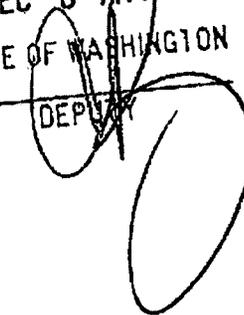
Clerk of the Court of Appeals,
State of Washington, Div. II

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Honorable Roger Bennett
Indeterminate Sentence Review Board
West Group

FILED
COURT OF APPEALS
DIVISION II
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STATE OF WASHINGTON
BY 

IN THE COURT OF APPEALS OF THE STATE OF WASHINGTON
DIVISION II

STATE OF WASHINGTON,

Respondent,

v.

HEIDI CHARLENE FERO,

Appellant.

No. 30356-6-II

ORDER AMENDING OPINION

This court filed a published opinion in this case on January 4, 2005. The appellant, Heidi Fero, petitioned for review to the Washington State Supreme Court, and on August 24, 2005, that court granted review and remanded the matter to us for further consideration in light of *State v. Hughes*, 154 Wn.2d 118, 110 P.3d 192 (2005). After review of the record and file herein, it is hereby

ORDERED,

(1) That the final sentence in last paragraph of the majority opinion:

“For the purposes of compliance with *Blakely*, we adopt the rationale and holding in *State v. Harris*, __ Wn. App. __, 99 P.3d 902, 911-12 (2004), that permits the court on remand to empanel a jury to consider aggravation factors without violating double jeopardy or the separation of powers.[including footnote 2]”

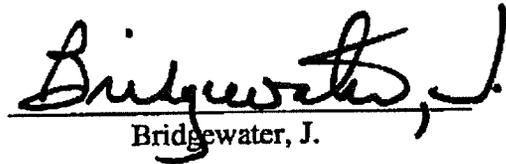
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is deleted. The sentence shall instead read:

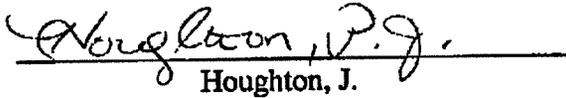
"For the purposes of compliance with *Blakely*, we follow *State v. Hughes*, 154 Wn.2d 118, 151-52, 156, 110 P.3d 192 (2005) and remand for resentencing within Fero's standard sentence range."

IT IS SO ORDERED.

DATED this 6TH day of DECEMBER, 2005.


Bridgewater, J.

I concur:


Houghton, J.

QUINN-BRINTNALL, C.J. (dissenting) — I dissent from the order amending the original opinion. I acknowledge that this court is bound by the Washington Supreme Court's conclusion that *Blakely* errors¹ are "structural" errors not subject to harmless-error review. See *State v. Hughes*, 154 Wn.2d 118, 142-48, 110 P.3d 192 (2005). I believe, however, that *Hughes* was wrongly decided and a misapplication of existing United States Supreme Court precedent. See *Connecticut v. Johnson*, 460 U.S. 73, 81 n.9, 103 S. Ct. 969, 74 L. Ed. 2d 823 (1983) (plurality) (stating that "whether a federal constitutional error can be harmless is a federal question"). And because the United States Supreme Court will likely address this issue by June 2006, see *State v. Recuenco*, 154 Wn.2d 156, 110 P.3d 188, cert. granted, 126 S. Ct. 478 (2005), I would stay further proceedings in this matter until then.²

I continue to believe that a constitutional violation cannot be "procedural" for purposes of retroactivity analysis and structural for purposes of harmless-error analysis. See *State v. Fero*, 125 Wn. App. 84, 103-07, 104 P.3d 49 (2005) (Quinn-Brintnall, C.J., dissenting). *Blakely* does not apply retroactively to cases already final on direct review. *State v. Evans*, 154 Wn.2d 438, 446-48 & n.3, 114 P.3d 627 (following *Schriro v. Summerlin*, 542 U.S. 348, 124 S. Ct. 2519, 159 L. Ed. 2d 442 (2004)), cert. denied, 2005 U.S. LEXIS 7963 (2005). This is because *Blakely* errors are procedural in nature and do not involve a "watershed rule[] of criminal procedure" implicating the fundamental fairness and accuracy of the criminal proceeding." *Summerlin*, 542

¹ *Blakely v. Washington*, 542 U.S. 296, 124 S. Ct. 2531, 159 L. Ed. 2d 403 (2004). *Blakely* errors consist of the partial deprivation of a defendant's jury trial right that occurs when a defendant's sentence is increased based on facts neither admitted by the defendant nor found by a jury.

² I would do so because Heidi Fero would not be prejudiced by such a stay. Fero was sentenced in May 2003, and her standard sentencing range is 93 to 123 months, well past the anticipated duration of a stay.

U.S. at 355 (quoting *Saffle v Parks*, 494 U.S. 484, 495, 110 S. Ct. 1257, 108 L. Ed. 2d 415 (1990)). If *Blakely* errors are so defined, I must conclude that they do not fall within the definition of a structural error, i.e., an error that “deprive[s] defendants of ‘basic protections’ without which ‘a criminal trial cannot reliably serve its function as a vehicle for determination of guilt or innocence . . . and no criminal punishment may be regarded as fundamentally fair.’” *Neder v. United States*, 527 U.S. 1, 8-9, 119 S. Ct. 1827, 144 L. Ed. 2d 35 (1999) (second alteration in original) (quoting *Rose v. Clark*, 478 U.S. 570, 577-78, 106 S. Ct. 3101, 92 L. Ed. 2d 460 (1986)). As such, *Blakely* errors are nonstructural and are subject to harmless-error review.

I reach this conclusion also based on the analysis thoroughly set forth by Justice Martin in *State v. Allen*, 359 N.C. 425, 454-69, 615 S.E.2d 256 (N.C. 2005) (Martin, J., concurring in part and dissenting in part). I summarize that analysis here in the following syllogism: *First*, the Supreme Court held in *Neder*, 527 U.S. at 9-11, that the failure to submit an element of the crime to the jury, though violative of the defendant’s jury trial right, is subject to harmless-error review; such an error becomes structural, and not subject to harmless-error review, only when the jury fails to make proper findings on any element of the crime.³ *Second*, the Supreme Court has held that the failure to submit an aggravating factor to the jury is error precisely because such a factor “is the functional equivalent of an element of a greater offense than the one covered by the jury’s guilty verdict. Indeed, it fits squarely within the usual definition of an ‘element’ of the offense.” *Apprendi v. New Jersey*, 530 U.S. 466, 494 n.19, 120 S. Ct. 2348, 147 L. Ed. 2d 435

³ *Neder*, 527 U.S. at 10-11; see also *Mitchell v. Esparza*, 540 U.S. 12, 16, 124 S. Ct. 7, 157 L. Ed. 2d 263 (2003) (per curiam); *Clark*, 478 U.S. at 578 (“Where [the jury trial] right is altogether denied, the State cannot contend that the deprivation was harmless because the evidence established the defendant’s guilt; the error in such a case is that the wrong entity judged the defendant guilty.”).

(2000). *Therefore*, the failure to submit an aggravating factor to the jury is subject to harmless-error review provided that the jury has returned findings on other elements of the underlying crime. *Accord Allen*, 359 N.C. at 460 & n.10.

The *Hughes* court's implicit disagreement with the foregoing analysis is based entirely on *Sullivan v. Louisiana*, 508 U.S. 275, 113 S. Ct. 2078, 124 L. Ed. 2d 182 (1993), where the Court held that a defective reasonable doubt instruction was a structural error. *Hughes* relied on dicta from *Sullivan* that did suggest harmless-error review could not apply when a jury failed to return a verdict of guilty beyond a reasonable doubt on all elements. *Hughes*, 154 Wn.2d at 143-45, 148 (quoting from and relying on *Sullivan*, 508 U.S. at 279-80); *see also State v. Zimmerman*, ___ Wn. App. ___, 121 P.3d 1216 (2005) (discussing *Sullivan*, *Neder*, and *Hughes*). But as Justice Martin noted, the problem with *Sullivan*'s dicta is that it was "*specifically disavowed in Neder*." *Allen*, 359 N.C. at 466. The *Neder* Court unequivocally stated that "the reasoning in *Sullivan* . . . cannot be squared with [the Court's] harmless-error cases." 527 U.S. at 11, *see also id.* at 36 (Scalia, J., dissenting) (concluding that the majority had "cast[] *Sullivan* aside"). The *Hughes* court did not explain its reliance on logic denounced in *Neder*. This tension is heightened by the Washington Supreme Court's "adopt[ion]" of *Neder*. *Hughes*, 154 Wn.2d at 147 n.12 (discussing *State v. Brown*, 147 Wn.2d 330, 340, 58 P.3d 889 (2002)).⁴

⁴ As Justice Martin also noted, this inconsistency may explain why "*Hughes* appears to be an outlier among appellate court decisions addressing the *Blakely*/harmless-error issue." *Allen*, 359 N.C. at 466-68 & nn.13 & 15 (citing 15 cases holding that *Blakely* errors are subject to harmless-error review and 25 cases holding that harmless-error review applies to violations of *Blakely*'s progenitor, *Apprendi*); *see also State v. Henderson*, ___ Ariz. ___, 115 P.3d 601, 605-07 (Ariz. 2005); *State v. Martinez*, ___ Ariz. ___, 115 P.3d 618, 625-26 (Ariz.), *cert. denied*, 2005 U.S. LEXIS 8772 (U.S. Nov. 28, 2005); *People v. Taulton*, 129 Cal. App. 4th 1218, 1226, 29 Cal. Rptr. 3d 203 (Cal. Ct. App. 2005); *People v. Nitz*, 353 Ill. App. 3d 978, 993, 820 N.E.2d 536 (Ill. App. Ct. 2004), *review granted*, 214 Ill. 2d 545 (Ill. 2005); *Reyes v. State*, 828 N.E.2d 420, 423 (Ind. Ct. App. 2005); *Averitte v. State*, 824 N.E.2d 1283, 1288 (Ind. Ct. App. 2005); *Weis v. State*, 825 N.E.2d 896, 907 (Ind. Ct. App. 2005).

In sum, I cannot agree with the Washington Supreme Court's conclusion that harmless-error review does not apply to *Blakely* errors.⁵ And because the United States Supreme Court will likely soon address this issue in *Recuenco*, I dissent from the order amending the original opinion.


QUINN-BRINTNALL, C.J.

⁵ I would also briefly note that in some circumstances, *Blakely* errors are neither plain nor manifest as they have no effect on the defendant's ultimate sentence. For example, when a court imposes an exceptional sentence on one count and a standard range sentence on a second count, and the exceptional sentence is shorter than the standard range sentence, and the sentences run concurrently, the defendant suffers no discernable harm from the error inhering in the procedure used to impose the "ineffective" exceptional sentence. Thus, in my view, the error is not manifest and is clearly harmless.

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124 S. Ct. 2531, 159 L. Ed. 2d 403 (2004). 2 Clerk's Papers (CP) at 188. Finally, regardless of the facts that Fero was a baby-sitter and the child was 15 months old, the "harmless error" doctrine does not apply under *Blakely*. We affirm the conviction, but remand for resentencing consistent with *Blakely*.

I. The Injury

Around 10:00 P.M. on January 7, 2002, paramedics responded to the 3100 block of Falk Road in Clark County, Washington. Blain Dohman, the lead paramedic for American Medical Response, was met at the door by Heidi Fero. Fifteen-month-old Brynn Ackley was unconscious, flaccid, and pale. Dohman noted Brynn had bruising on her forehead, around her nose, and on her chin.

The paramedics took Brynn to Southwest Washington Medical Center (SWWMC). They also called the police to respond to the scene. At the SWWMC, a doctor determined that Brynn was too sick to be treated at the hospital and had her transferred to Legacy Emmanuel Hospital in Portland, Oregon.

At Legacy Emmanuel, a neurologist performed emergency surgery on Brynn to remove a blood clot from her brain and to remove a large flap of bone to provide room for brain swelling. Brynn's total injuries were a subdural hematoma; bilateral hemorrhages; a laceration on the inside of her labia; large bruises on her cheeks, chin, chest, the area above her vagina, and on the labia majora; and an oblique fracture of her left tibia.

On June 12, 2002, the State charged Fero with one count of first degree assault of a child.

II. The Trial

At trial, the State called several witnesses to prove causation and to refute the defense's theory that Kaed, Brynn's 4 1/2-year-old half-brother, caused her injuries. The lead paramedic testified that upon arriving at Fero's place, he noticed the bruising to Brynn's face and asked Fero whether the bruises were new or old. The only information Fero gave him was that Brynn had suffered some bruises from recent attacks by her older brother, Kaed. Fero also did not tell Dohman that Brynn had a limp or had trouble walking. Dohman further testified that the bruising on Brynn's face progressed rapidly from the time he and his partner arrived until they reached the hospital.

Jeff Tone, Dohman's partner the night of the injury, testified that he noticed upon arriving that Brynn was "limp, like a rag doll" and did not look "very alive." 1 Report of Proceedings (RP) (Mar. 11, 2003) at 39. He stated that Fero was hyper, asked the paramedics multiple questions, and kept repeating herself by saying, "Did I do the right thing?" 1 RP (Mar. 11, 2003) at 39. Fero explained to Tone that Brynn was hurt when Kaed swung her into the wall "like a baseball bat." 1 RP (Mar. 11, 2003) at 40. Fero told Tone she did not actually see the attack but her daughter told her what had happened.

Officer Scott Telford of the Vancouver Police Department investigated the incident. Officer Telford testified that Fero told him she was upstairs when Brynn was hurt. She came downstairs to check on the children and everything was fine. Fero went back upstairs and when she returned less than five minutes later, she saw Kaed jumping out of Brynn's play crib. She told Officer Telford that Brynn was crying and had some blood coming out of her mouth. Officer Telford checked the play crib and found no blood in it.

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Officer Telford further testified that Fero told him that she held Brynn until she stopped crying and then put her on the couch. When she went back to check on her about five minutes later, Brynn's eyes were glazed over, she was unresponsive, and not breathing. Fero told Officer Telford she then called 911.

Fero also provided a written statement to Officer Telford. In her statement, Fero wrote that Kaed hit his sister with a toy hammer, hitting her in the face, and that he jumped on top of her. She also wrote that when she picked up Brynn, she was okay. She had some blood coming out of her mouth but she was crying and being normal. Fero wrote that she checked on Brynn a few minutes later and found that she was unresponsive. The State also played the 911 dispatch tape. The tape recorded Fero stating that she laid Brynn down and shortly after doing so, checked on the little girl and found her unresponsive.

The State also called Detective Scott Smith of the Vancouver Police Department. Detective Smith had videotaped Fero's apartment, focusing on the play crib. He also placed the green plastic toy hammer into evidence. He testified that Fero told him the play crib had originally been against the wall and then it was moved out from the wall. By looking underneath the play crib and by marks in the carpet, the detective confirmed that the play crib had not been moved.

Detective Smith took photos of the wall behind the play crib believing that if the play crib was against the wall during Brynn's injury that presumably, the play crib made marks against the wall during the assault. The marks that the detective found on the wall did not correspond with the height of the play crib. Detective Smith further stated that while collecting evidence at the

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apartment, he overheard the defendant talking with her mother. Fero told her mother that she had shaken Brynn but only in order to wake her up.

Jason Ackley, Brynn's father, also testified. Ackley knew Dustin Goodwin, Fero's boyfriend, from work. He knew that Fero was unemployed and asked Goodwin if Fero could baby-sit Brynn and Kaed.

On the night of Brynn's injury, Ackley spoke with Fero twice; around 7:45 P.M. and 10:30 P.M. During the first call, Fero voiced her concerns about Kaed hurting Brynn and that Brynn was unable to walk on a leg. Fero told Ackley that her daughter saw Kaed push Brynn's head into a wall. Ackley did not remember Fero telling him about any bruises on Brynn.

Ackley stated that at 10:30 P.M., Goodwin called Fero but she could not talk because "something had happened." 1 RP (Mar. 11, 2003) at 121. Ackley then called Fero back and spoke with her. Fero told him that she laid Brynn down for a nap after giving her a bath. When she returned to check on her, Brynn was not breathing.

Ackley testified that Kaed was occasionally rough with Brynn but that Brynn had never sustained any injuries from Kaed. Ackley also saw Brynn before she went to Fero's house on January 7, and she was walking fine, was running around, and did not have any bruises on her face.

The State also called Breanne Franck, Brynn's mother. Franck testified that Kaed was only 4 1/2 years old at the time of Brynn's injury. Franck dropped the children off at Fero's around 2 P.M. on January 7. Brynn had neither bruises nor any trouble walking before being left with Fero. Franck also testified that Kaed had never injured Brynn.

Detective Steve Norton of the Child Abuse Intervention Center (CIAC) investigated the case. He testified that Fero told him she was upstairs giving her son a bath when her daughter came to tell her that Kaed had hurt Brynn. Fero went downstairs and everything was fine. She then went back upstairs, dried off her son, and came back downstairs where she saw Kaed jumping out of the play crib.

Fero told Detective Norton that Brynn was in the play crib on "all fours facing the wall" and that there was some blood coming out of her mouth. 2 RP (Mar 12, 2003) at 191. She put Brynn on the couch and Brynn appeared to "go to sleep." 2 RP (Mar. 12, 2003) at 192. Fero told the detective that when she brushed Brynn's hair away from her eyes, her head rolled to one side and she did not look like she was breathing. Fero picked up Brynn and tried to "revive" her by smacking her face and splashing water on her. 2 RP (Mar. 12, 2003) at 192. She then called her mother and then called 911. Fero told Detective Norton that five minutes elapsed from when she took Brynn out of the play crib, put her on the couch, and then noticed something was wrong.

Detective Norton stated that Fero told him that her daughter told her that Kaed hit Brynn with the little green toy hammer. The detective asked Fero about prior injuries to Brynn. Fero told him that Brynn had "some red marks" on her stomach but she did not tell the detective that Brynn had any problems walking or even had a limp. 2 RP (Mar 12, 2003) at 193

The detective also asked Fero if she gave Brynn a bath that evening. Fero denied giving Brynn a bath and told the detective that Brynn had not been upstairs all evening. She also denied changing Brynn's diaper that night. Detective Norton also questioned Fero about other causes

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for Brynn's injuries. Fero told him that her daughter "may" have seen Kaed hitting Brynn's head into the wall, and that Kaed had jumped on his sister. 2 RP (Mar. 12, 2003) at 196.

The State introduced letters written on Fero's behalf by attorney Jerry Wear, Fero's first attorney. In one letter, Fero indicated that Brynn had a limp when she arrived at the apartment and that she had bruises on her chin and abdomen. Fero never told this information to Detective Norton.

The State presented the testimony of several doctors who had treated Brynn after her injury. Dr. Daniel Gorecki, an emergency room physician at Southwest Washington Medical Center, treated Brynn before her transport to Legacy Emmanuel Hospital. A CAT scan of Brynn's brain showed a severe brain injury caused by a blood clot on her brain, bleeding in the brain, and brain swell, which caused the brain to "shift[.]" 1 RP (Mar. 12, 2003) at 60. Dr. Gorecki further testified that Brynn's injuries were not caused by a 4 1/2 year old little boy. He stated that Brynn's injuries were caused by "repetitive force" and a child is not capable of causing repetitive injuries. 1 RP (Mar. 12, 2003) at 64.

Dr. James Ockner, a radiologist from SWWMC, also testified. Dr. Ockner stated that Brynn suffered "a collection of blood that . . . clotted" between the brain and the skull on the left side of her brain. 1 RP (Mar. 12, 2003) at 83. He informed the jury that when the brain is shaken, the veins in the brain break and start to bleed, a collection of blood forms in what is called a "subdural hematoma." 1 RP (Mar. 12, 2003) at 84. The doctor further stated that the injury that caused the subdural hematoma was quite severe because it caused the brain to swell. Dr. Ockner found no evidence of a big blow to Brynn's head, such as a lump on the side of the head or a goose egg where the blow had occurred. Since there was no evidence of impact to

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Brynn's skull, the doctor testified it was a "shaking injury" that caused the damage to Brynn's brain. 1 RP (Mar. 12, 2003) at 91. He concluded that someone inflicted Brynn's injury and that it was not an accident.

Dr. Mike Lukschu, a pediatrician at Legacy Emmanuel, examined Brynn on January 8, 2002. He testified that he was familiar with the medical diagnosis of "shaken baby syndrome" (SBS) and the symptoms associated with it. 2 RP (Mar. 11, 2003) at 179. He stated that SBS is an inflicted injury and not accidental. He also noted that Brynn's head injury was so severe that she would have gone unconscious immediately. It was his opinion, based on the multiplicity of bruises and their location, that someone inflicted the bruises. Dr. Lukschu further testified that he had only seen bilateral retinal hemorrhages in patients who had suffered SBS. The doctor stated that a 4 1/2 year old could not cause bilateral retinal hemorrhages because a 4 1/2 year old could not inflict the kind of force necessary to cause the hemorrhages.

The State also called Dr. Shawn Goodman, a pediatric ophthalmologist. Dr. Goodman was called to Legacy Emmanuel on consult to evaluate the injury to Brynn's eyes. She testified that Brynn suffered hemorrhages in both eyes over the surface of the retina and within the retina. Dr. Goodman stated that the bilateral retinal hemorrhages were "consistent with nonaccidental trauma." RP (Mar. 13, 2003) at 63.

Dr. William Gerald Bennett, a pediatric radiologist at Legacy Emmanuel, testified about the fracture of Brynn's left leg. On the x-ray depicting Brynn's legs, the doctor identified a fracture through the mid-part of the left tibia. Dr. Bennett explained that the characteristics of Brynn's fractured tibia showed that it was a recent fracture, that it was an "oblique" or "spiral" fracture, and that the fracture was "displaced" or "pulled apart." RP (Mar. 13, 2003) at 14, 16

The doctor stated that a child suffering this type of fracture would not walk on the leg because it would be too painful. He further explained that to cause a displaced spiral fracture, a person would have to "twist the leg violently." RP (Mar. 13, 2003) at 16. He noted that it would take a lot of force to produce this type of fracture and that a 4 1/2 year old boy is not strong enough to cause this type of fracture.

Dr. Kent M. Grewe, a neurosurgeon, also testified at trial. He explained that there would not be any lucid interval of time between Brynn sustaining the brain injury and the onset of the brain swelling. The doctor further stated that if a blow to the head had caused Brynn's brain injury, there would have been a fracture of her skull because the brain injury was so severe. Brynn did not have a skull fracture. Dr. Grewe also stated that a boy Kaed's size could not produce such a brain injury by hitting her in the head with a green plastic toy hammer or by pushing her head into the wall.

Fero also testified. She explained that the injury occurred around 7 P.M., after she finished giving Brynn a bath. After Brynn's bath, she dressed the little girl and put her to bed in the play crib downstairs. She then took her son upstairs to the master bathroom to give him his bath. The layout of Fero's apartment did not allow her to see what was happening downstairs while she was upstairs. While giving her son a bath, Fero's daughter came upstairs to tell her that Kaed was hurting Brynn. She testified that as she went down the stairs, she saw Kaed attempting to get out of the play crib. Brynn was on her hands and knees in the play crib and she had a little bit of blood in her mouth. Fero held Brynn and comforted her. Thinking Brynn was asleep, she laid the little girl down on the couch. It was not until 9:45 that evening that Fero

noticed Brynn was unresponsive and called 911. Fero stated that she never actually saw Kaed attack Brynn. She also explained that she was not good in emergency situations.

At the close of evidence, the trial court read the jury instructions to the jury. The jury instructions included, jury instruction 7, the “to-convict” instruction. 1 CP at 98. Fero did not object to the instruction.

After hearing closing arguments, the jury deliberated and returned a verdict of guilty. Fero’s standard range sentence was 93 to 123 months. The court later imposed an exceptional sentence of 180 months. The court found that Brynn was particularly vulnerable because of extreme youth, and that Fero had acted in breach of an affirmative duty to protect Brynn

III. Sufficient Evidence

Fero argues there was insufficient evidence to support her conviction. We review a challenge of insufficient evidence in the light most favorable to the State to determine “whether . . . any rational trier of fact could have found guilt beyond a reasonable doubt.” *State v. Salinas*, 119 Wn.2d 192, 201, 829 P.2d 1068 (1992) (citing *State v. Green*, 94 Wn.2d 216, 220-22, 616 P.2d 628 (1980)). The court may infer criminal intent from conduct. *State v. Delmarter*, 94 Wn.2d 634, 638, 618 P.2d 99 (1980). “When the sufficiency of the evidence is challenged in a criminal case, all reasonable inferences from the evidence must be drawn in favor of the State and interpreted most strongly against the defendant.” *Salinas*, 119 Wn.2d at 201 (citing *State v. Partin*, 88 Wn.2d 899, 906-07, 567 P.2d 1136 (1977)). “A claim of insufficiency admits the truth of the State’s evidence and all inferences that reasonably can be drawn therefrom.” *Salinas*, 119 Wn.2d at 201 (citing *State v. Theroff*, 25 Wn. App. 590, 593, 608 P.2d 1254, *aff’d*, 95 Wn.2d 385 (1980)). The reviewing court considers circumstantial evidence equally reliable

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as direct evidence. *State v. Myers*, 133 Wn.2d 26, 38, 941 P.2d 1102 (1997) “Credibility determinations are for the trier of fact and cannot be reviewed on appeal.” *State v. Cumarillo*, 115 Wn.2d 60, 71, 794 P.2d 850 (1990).

The State offered the testimony of several doctors who had all treated Brynn after her injury. Their testimony portrayed the injuries as non-accidental, consistent with the “shaken baby syndrome,” and impossible for a 4 1/2-year-old to have caused the repetitive injury to the brain or the spiral fracture of the leg. None of the doctors found that her 4 1/2-year-old brother could have inflicted the serious injuries that Brynn sustained. Moreover, Brynn’s parents testified that Brynn had no recent bruises nor was she limping at the time they left her with Fero. Additionally, as demonstrated above, Fero’s own testimony and statement to others was conflicting

Taking the evidence in the light most favorable to the State, and leaving credibility determinations to the jury, sufficient evidence existed to support Fero’s conviction.

IV. Jury Instruction

Fero next contends that the trial court failed to properly instruct the jury. But Fero did not object at trial to the court’s instruction. Fero argues the court committed a manifest constitutional error and that she can raise this issue on appeal

A defendant must timely and specifically object to the trial court’s giving of an instruction or the refusal to give a requested instruction. *Reed v. Pennwalt Corp*, 93 Wn.2d 5, 6, 604 P.2d 164 (1979). If the alleged error in the jury instruction is a manifest constitutional error, it may be reviewable unless an adequate exception applies. RAP 2.5(a). Where a jury instruction omits an element of the charged crime, an error of constitutional magnitude arises

State v. Scott, 110 Wn.2d 682, 688 n.5, 757 P.2d 492 (1988) (citing *State v. Johnson*, 100 Wn.2d 607, 623, 674 P.2d 145 (1983), overruled on other grounds in *State v. Bergeron*, 105 Wn.2d 1, 711 P.2d 1000 (1985)).

Jury instruction 7 contained the “to-convict” instruction.¹ Fero asserts that the instruction omitted a causal connection between the assault and the injury because the instruction does not contain the word “thereby.” Br. of Appellant at 21. She contends that this was an error because the jury could have found that she assaulted Brynn but that it was actually Brynn’s half-brother who caused her injuries. We disagree.

While it is true the instruction does not contain the “thereby” language, jury instructions are sufficient when they are not misleading, permit each party to argue its theory of the case, and, when read as a whole, properly inform the trier of fact of the applicable law. *State v. Edwards*, 84 Wn. App. 5, 14, 924 P.2d 397 (1996) (citing *Hyatt v. Sellen Constr. Co.*, 40 Wn App. 893, 895, 700 P.2d 1164 (1985)), *review denied*, 131 Wn.2d 1016 (1997). Here, element one of jury instruction 7 instructed the jury that in order to find Fero guilty, it had to find that she

¹ Jury instruction 7 read as follows:

To convict the defendant of the crime of assault of a child in the first degree, as charged in Count 1, each of the following elements must be proved beyond a reasonable doubt:

(1) That on or about the 7th day of January, 2002, the defendant intentionally assaulted Brynn M. Ackley (female, DOB: 9-30-00) and recklessly inflicted great bodily harm;

(2) That the defendant was eighteen years of age or older and Brynn M. Ackley was under the age of thirteen; and

(3) That the acts occurred in the State of Washington.

If you find from the evidence that each of these elements has been proved beyond a reasonable doubt, then it will be your duty to return a verdict of guilty

On the other hand, if after weighing all of the evidence, you have a reasonable doubt as to any of these elements, then it will be your duty to return a verdict of not guilty.

intentionally assaulted Brynn and “recklessly inflicted great bodily harm” 1 CP at 98. The instruction contains the allegedly missing causal element and it is consistent with the statute. In fact, the instruction instructed the jury on every element of the crime that the State had to prove. The jury had to find that Fero both assaulted Brynn and that as a result of the assault, Fero recklessly inflicted great bodily harm. The jury could not have possibly misinterpreted the instruction and found that Fero assaulted Brynn but that the half-brother caused the injuries.

V *Blakely* Issue

RCW 9.94A.510 provides a standard range sentence of 93 to 123 months for first degree assault of a child. The State moved for a 216-month exceptional sentence. The trial court found aggravating factors and sentenced Fero to 180 months. The trial court erred when it imposed an exceptional sentence without first submitting the issue of aggravating factors to a jury.

In *Blakely*, the Supreme Court applied its ruling from *Apprendi v New Jersey*, 530 U.S. 466, 490, 120 S. Ct. 2348, 147 L. Ed. 2d 435 (2000), and held that any fact a court uses to increase a penalty beyond the statutory maximum must first be submitted to a jury and *proved beyond a reasonable doubt*. *Blakely*, 124 S. Ct. at 2536 (emphasis added).

Here, the trial court, not the jury, found the facts supporting an exceptional sentence based on the victim’s vulnerability because of her young age and Fero’s affirmative duty to protect the victim from harm because she was the victim’s caregiver. The court did not submit either of these aggravating factors to a jury. Nor were they found beyond a reasonable doubt, which is the burden of proof necessary for the imposition of an exceptional sentence under

1 CP at 98.

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Blakely. *Blakely*, 124 S. Ct. at 2536. In fact, the trial court's findings do not discuss the burden of proof it used to find the presence of the aggravating factors

The situations discussed in *Blakely* that allow a court to impose an exceptional sentence without first submitting it to a jury, were not present in this case. First, Fero had no prior criminal history. A prior conviction allows a court to impose a sentence greater than the statutory maximum without first presenting it to the jury. *Blakely*, 124 S. Ct. at 2536. Second, the facts in the jury verdict do not reflect the facts the court used to impose the exceptional sentence. The verdict stated only that the jury found Fero guilty. It did not state any facts the jury used in reaching its verdict. A court may only impose an exceptional sentence based on facts reflected in the jury verdict. *Blakely*, 124 S. Ct. at 2537. Finally, a court may only impose an exceptional sentence where the defendant has admitted the facts the court used to impose the exceptional sentence. *Blakely*, 124 S. Ct. at 2537. Fero never admitted she had an affirmative duty to protect the victim because she was the victim's caregiver. Nor did she admit that the victim was vulnerable because of her young age.

The State contends that the court's failure to submit aggravating factors to the jury was a harmless error under the holding in *Neder v. United States*, 527 U.S. 1, 119 S. Ct. 1827, 144 L. Ed. 2d 35 (1999). In *Neder*, the Supreme Court adopted a harmless error analysis for use when the court fails to instruct the jury on all elements of an offense. *Neder*, 527 U.S. at 9. The Court found that such a failure "does not necessarily render a criminal trial fundamentally unfair." *Neder*, 527 U.S. at 9. But, the harmless error doctrine does not apply to structural errors, rather, structural errors are subject to automatic reversal. *Neder*, 527 U.S. at 8 (listing as examples total denial of counsel, biased trial court, racial discrimination in selection of grand jury, denial

of self-representation at trial, denial of public trial, and defective reasonable-doubt instruction). The court in *Neder* held that failing to instruct the jury does not result in automatic reversal because such error is not a “structural” error, i.e. “a defect affecting the framework within which the trial proceeds” *Neder*, 527 U.S. at 8 (quoting *Ariz v. Fulminante*, 499 U.S. 279 310, 111 S Ct. 1246, 113 L. Ed. 2d 302 (1991)). A defect that results in a structural error “infect[s] the entire trial process” *Neder*, 527 U.S. at 8 (quoting *Brecht v. Abrahamson*, 507 U.S. 619, 630, 113 S. Ct. 1710, 123 L. Ed. 2d 353 (1993)). Instead, a court should conduct a harmless error analysis to see “whether it appears ‘beyond a reasonable doubt that the error complained of did not contribute to the verdict obtained.’” *Neder*, 527 U.S. at 15 (quoting *Chapman v. Cal.*, 386 U.S. 18, 24, 87 S. Ct. 824, 17 L. Ed. 2d 705 (1967)).

The Court considered *Sullivan v. Louisiana*, 508 U.S. 275, 281, 113 S. Ct. 2078, 124 L. Ed. 2d 182 (1993), in making its determination. In *Sullivan* the Court held that a defective reasonable doubt instruction was a “structural” error. *Sullivan*, 508 U.S. at 281. In *Neder*, the Court reiterated its holding from *Sullivan*, stating that “harmless error analysis cannot be applied to a constitutional error that precludes the jury from rendering a verdict of guilty-beyond-a-reasonable-doubt.” *Neder*, 527 U.S. at 11. The Court distinguished the situation in *Neder* by holding that the incomplete jury instruction merely prevented the jury from making a finding on an element of the crime charged. *Neder*, 527 U.S. at 11. We find that *Neder* is inapplicable to violations of *Blakely*. Unlike *Neder* which dealt with flawed jury instructions, *Blakely* addressed a defendant’s fundamental right to trial by jury.

The State asserts that under the *Neder* harmless error analysis, Fero need not be resentenced because overwhelming evidence supported the aggravating factors the court relied

on. In its brief, the State cites several cases that have used the *Neder* harmless error analysis where a judge, rather than a jury, decided a fact for sentencing purposes. But the holdings in these cases do not overcome *Blakely's* clear language. The Supreme Court held in *Blakely* that “the ‘statutory maximum’ for *Apprendi* purposes is the maximum sentence a judge may impose solely on the basis of the facts reflected in the jury verdict or admitted by the defendant.” *Blakely*, 124 S. Ct. at 2537 (citing *Ring v. Ariz.*, 536 U.S. 584, 122 S. Ct. 2428, 153 L. Ed. 2d 556 (2002))

The *Blakely* Court did not explicitly identify the proper standard of review. See *Blakely*, 124 S. Ct. at 2538. The Court held that “[b]ecause the State’s sentencing procedure did not comply with the Sixth Amendment, petitioner’s sentence is invalid.” *Blakely*, 124 S. Ct. at 2538. This indicates that when a judge imposes an exceptional sentence not based on “*the facts reflected in the jury verdict or admitted by the defendant*,” the court commits fatal error. *Blakely*, 124 S. Ct. at 2537. *Blakely* characterized the right to a trial by jury as “no mere procedural formality, but a fundamental reservation of power in our constitutional structure.” *Blakely*, 124 S. Ct. at 2538-39

The facts in *Blakely* support the application of automatic error. *Blakely* pleaded guilty to second degree kidnapping involving domestic violence and use of a firearm. In accord with the plea agreement, the State recommended a sentence within the 49- to 53-month standard range. *Blakely*, 124 S. Ct. at 2535. On hearing the victim’s description of the kidnapping, however, the trial court imposed an exceptional sentence of 90 months on the grounds of deliberate cruelty. *Blakely*, 124 S. Ct. at 2535. *Blakely* objected, causing the court to hold a bench hearing. *Blakely*, 124 S. Ct. at 2535. The trial court again determined that *Blakely's* crime involved

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deliberate cruelty. *Blakely*, 124 S. Ct. at 2536. Because *Blakely* challenged the exceptional sentence at the trial court level, the Court would have applied harmless error review if *Blakely* announced a procedural rule. Instead, it reversed and remanded without stating a standard of review. This indicates that *Blakely* suffered a structural error, resulting in automatic reversal.

The dissent discusses the applicability of *Schriro v. Summerlin*, ___ U.S. ___, 124 S. Ct. 2519, 159 L. Ed. 2d 442 (2004), to the present case. In *Summerlin*, the Supreme Court addressed whether *Ring*, 536 U.S. 584, applied retroactively to cases already decided on direct review. *Summerlin*, 124 S. Ct. 2522. The Court specifically discussed whether the new rule set forth in *Ring* was a substantive rule or a procedural rule. *Summerlin*, 124 S. Ct. 2523. It held that the rule was procedural and thus the jury fact-finding requirement discussed in *Apprendi*, 530 U.S. at 490 (a defendant has a right to a jury trial on aggravating factors formerly considered by a sentencing court), did not apply to those cases already final on direct review. *Summerlin*, 124 S. Ct. 2523-24. The dissent argues that violations of *Apprendi*'s jury fact-finding requirement require review under the constitutional harmless error test. But the parties here have not raised *Summerlin* to point out any inconsistency between *Summerlin* and *Blakely*. Nor has the Supreme Court directed any case trying to harmonize *Summerlin* with *Blakely*. Therefore, we in the majority are not going to create a distinction. We are going to follow the plain line of *Apprendi*, *Neder*, and *Blakely*, which hold that this is a structural error and harmless error cannot apply.

The trial court erred when it imposed an exceptional sentence without submitting it to a jury to find beyond a reasonable doubt aggravating factors that would support the exceptional sentence. We vacate the exceptional sentence and remand for sentencing consistent with *Blakely*. For the purposes of compliance with *Blakely*, we adopt the rationale and holding in

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State v. Harris, __ Wn. App. __, 99 P.3d 902, 911-12 (2004), that permits the court on remand to empanel a jury to consider aggravating factors without violating double jeopardy or the separation of powers²


Bridgewater, J

I concur:


Houghton, P.J.

² We ordered supplemental briefs from the parties to discuss how the holding of *State v. Harris*, __ Wn. App. __, 99 P 3d 902 (2004), applies to the present case. After due consideration, we choose to follow the procedure outlined in *State v. Harris*.

QUINN-BRINTNALL, C.J. (concurring in part and dissenting in part) — I agree with those portions of the majority opinion holding that the evidence was sufficient to support the properly instructed jury’s verdict that Fero was guilty of first degree assault of a child for inflicting grievous bodily harm on the 15-month-old girl she was babysitting.³ But I dissent from that portion of the opinion holding that *Blakely* violations are structural errors requiring automatic reversal.

On the same day that the United States Supreme Court issued its opinion in *Blakely v Washington*, ___ U.S. ___, 124 S. Ct. 2531, 159 L. Ed. 2d 403 (2004), it issued *Schiro v Summerlin*, ___ U.S. ___, 124 S. Ct. 2519, 159 L. Ed. 2d 442 (2004). In *Summerlin*, the Court was asked to determine whether its decision in *Apprendi v. New Jersey*, 530 U.S. 466, 490, 120 S. Ct. 2348, 147 L. Ed. 2d 435 (2000) (announcing a defendant’s right to a jury trial on aggravating factors formerly considered by a court at sentencing), as applied to death penalty decisions in *Ring v. Arizona*, 536 U.S. 584, 122 S. Ct. 2428, 153 L. Ed. 2d 556 (2002), was a procedural or substantive change in the law. If substantive, i.e., “alter[ing] the range of conduct or the class of persons that the law punishes,” the *Apprendi* rule would be applied retroactively to death penalty cases already final on direct review; if procedural, i.e., “regulat[ing] only the manner of determining the defendant’s culpability,” *Apprendi*’s jury trial right on sentencing

³ I also agree with the majority decision to adopt the rationale and holding of *State v Harris*, ___ Wn. App. ___, 99 P.3d 902 (2004), allowing for the convening of a jury at the sentencing proceeding. I note that more than 20 years ago our Supreme Court set precedent for such remedy. In *State ex rel. Herron v. Browet, Inc.*, 103 Wn.2d 215, 691 P.2d 571 (1984), our Supreme Court superimposed a case law due process requirement for a jury trial onto a contempt statute that did not otherwise provide for trial by jury. *Browet*, 103 Wn.2d at 220; RCW 7.48.080 (moral nuisance)

factors would apply only prospectively. *Summerlin*, 124 S. Ct. at 2523. The *Summerlin* majority concluded that *Ring*'s holding was procedural:

... *Ring*'s holding is properly classified as procedural. *Ring* held that "a sentencing judge, sitting without a jury, [may not] find an aggravating circumstance necessary for imposition of the death penalty." [*Ring*, 536 U.S. at 609]. Rather, "the Sixth Amendment requires that [those circumstances] be found by a jury." [*Ring*, 536 U.S. at 609]. This holding did not alter the range of conduct Arizona law subjected to the death penalty. It could not have; it rested entirely on the Sixth Amendment's jury-trial guarantee, a provision that has nothing to do with the range of conduct a State may criminalize. Instead, *Ring* altered the range of permissible methods for determining whether a defendant's conduct is punishable by death, requiring that a jury rather than a judge find the essential facts bearing on punishment. Rules that allocate decisionmaking authority in this fashion are prototypical procedural rules, a conclusion we have reached in numerous other contexts.

Summerlin, 124 S. Ct. at 2523 (first and third alteration in original). The Court also rejected *Summerlin*'s argument that even if the rule was procedural, it would fall under the retroactivity exception for "'watershed rules of criminal procedure' implicating the fundamental fairness and accuracy of the criminal proceeding." *Summerlin*, 124 S. Ct. at 2520 (quoting *Saffle v. Parks*, 494 U.S. 484, 495, 110 S. Ct. 1257, 108 L. Ed. 2d 415 (1990)). Citing *Blakely*, the Court noted:

The question here is not, however, whether the Framers believed that juries are more accurate factfinders than judges (perhaps so--they certainly thought juries were more independent). Nor is the question whether juries actually *are* more accurate factfinders than judges (again, perhaps so). Rather, the question is whether judicial factfinding so "*seriously* diminishe[s]" accuracy that there is an "impermissibly large risk" of punishing conduct the law does not reach. The evidence is simply too equivocal to support that conclusion.

Summerlin, 124 S. Ct. at 2525 (citations omitted).

There are two consequences that flow from *Summerlin*'s ruling characterizing *Apprendi* as procedural. First, as a procedural rule, the jury factfinding requirement does not apply to cases already final on direct review. *Summerlin*, 124 S. Ct. 2523-24. Secondly, as a procedural

rule, its violation cannot be a structural error requiring automatic reversal. Instead, violations of *Apprendi*'s jury factfinding requirement are subject to review under the constitutional harmless error test.

The Supreme Court demonstrated its view that a constitutional harmless error test properly applied to *Apprendi* violations in *United States v. Cotton*, 535 U.S. 625, 122 S. Ct. 1781, 152 L. Ed. 2d 860 (2002). In *Cotton*, the government conceded that the indictment failed to allege a fact (drug quantity) that increased the statutory maximum sentence and rendered the defendant's enhanced sentence erroneous under *Apprendi* and *Jones v. United States*, 526 U.S. 227, 119 S. Ct. 1215, 143 L. Ed. 2d 311 (1999). The government also conceded that the error was plain and could be raised for the first time on appeal. The Court, however, concluded as follows:

The third inquiry is whether the plain error "affect[ed] substantial rights." This usually means that the error "must have affected the outcome of the district court proceedings." [*United States v. Olano*, 507 U.S. 725, 734, 113 S. Ct. 1770, 123 L. Ed. 2d 508 (1993)]. Respondents argue that an indictment error falls within the "limited class" of "structural errors," [*Johnson v. United States*, 520 U.S. 461, 468-69, 117 S. Ct. 1544, 137 L. Ed. 2d 718 (1997),] that "can be corrected regardless of their effect on the outcome," [*Olano*, 507 U.S. at 735]. Respondents cite *Silber v. United States*, 370 U.S. 717, 82 S. Ct. 1287, 8 L. Ed. 2d 798 (1962) (*per curiam*), and *Stirone v. United States*, [361 U.S. 212, 80 S. Ct. 270, 4 L. Ed. 2d 252 (1960),] in support of this position. The Government counters by noting that *Johnson*'s list of structural errors did not include *Stirone* or *Silber*, . . . and that the defendants in both of these cases preserved their claims at trial. . . .

As in *Johnson* . . . , we need not resolve whether respondents satisfy this element of the plain-error inquiry, because even assuming respondents' substantial rights were affected, the error did not seriously affect the fairness, integrity, or public reputation of judicial proceedings. The error in *Johnson* was the District Court's failure to submit an element of the false statement offense, materiality, to the petit jury. The evidence of materiality, however, was "overwhelming" and "essentially uncontroverted." . . . We thus held that there was "no basis for concluding that the error 'seriously affect[ed] the fairness, integrity or public reputation of judicial proceedings.'" . . .

The same analysis applies in this case to the omission of drug quantity from the indictment. The evidence that the conspiracy involved at least 50 grams of cocaine base was “overwhelming” and “essentially uncontroverted.” . . . Surely the grand jury, having found that the conspiracy existed, would have also found that the conspiracy involved at least 50 grams of cocaine base.

....
. . . The real threat then to the “fairness, integrity, and public reputation of judicial proceedings” would be if respondents, despite the overwhelming and uncontroverted evidence that they were involved in a vast drug conspiracy, were to receive a sentence prescribed for those committing less substantial drug offenses because of an error that was never objected to at trial

Cotton, 535 U.S. at 632-34.

Although *Summerlin* and *Cotton* addressed issues of retroactivity and issue preservation, each analysis rests on the Court’s ruling that *Apprendi* jury factfinding violations are procedural rather than “substantive” (*Summerlin*) or “structural” (*Cotton*). *Blakely*’s extension of the *Apprendi* jury factfinding requirements to exceptional sentences is necessarily the application of a procedural and not structural requirement and any violation is subject to harmless error review under the constitutional overwhelming uncontroverted evidence test. See, e.g., *State v. Easter*, 130 Wn.2d 228, 242, 922 P.2d 1285 (1996)

In holding that *Blakely* errors are structural and require automatic reversal, the majority relies on *Sullivan v Louisiana*, 508 U.S. 275, 113 S. Ct. 2078, 124 L. Ed. 2d 182 (1993) There, the Court held that a constitutionally deficient reasonable doubt instruction requires automatic reversal. *Sullivan*, 508 U.S. at 278-82. At first blush, the following passage from *Sullivan* supports today’s majority:

The inquiry, in other words, is not whether, in a trial that occurred without the error, a guilty verdict would surely have been rendered, but whether the guilty verdict actually rendered in *this* trial was surely unattributable to the error. That must be so, because to hypothesize a guilty verdict that was never in fact rendered--no matter how inescapable the findings to support that verdict might be--would violate the jury-trial guarantee.

Sullivan, 508 U.S. at 279. But the United States Supreme Court has never held that automatic reversal is required when a jury does not decide every element of a crime. Indeed, in *Neder v. United States*, 527 U.S. 1, 18, 119 S. Ct. 1827, 144 L. Ed. 2d 35 (1999), the Court held that when applied to an element omitted from a jury instruction, and, thus, never formally decided, the error is harmless if uncontroverted evidence supports the reviewing court's finding of the element beyond a reasonable doubt. See also *Cotton*, 535 U.S. at 633 (no automatic reversal where grand jury did not find that the conspiracy involved at least 50 grams of cocaine). I fail to see how, under *Neder*, an appellate court may find harmless the absence of a jury finding of an element beyond a reasonable doubt but may not find harmless the absence of a sentencing element under identical circumstances, especially when the element was found by the trial judge. Simply put, while relieving the burden of proof, as in *Sullivan*, is a "structural" error (because neither judge nor jury ever finds the elements beyond a reasonable doubt), no such structural error exists when the jury finds all elements beyond a reasonable doubt and the judge, rather than the jury, finds disputed sentencing factors.

Whatever the allure and wisdom might be in the first instance of the majority's easily applied ruling, I cannot agree that the *Apprendi/Blakely* jury factfinding requirement is a structural change. On the same day it issued its opinion in *Blakely*, this nation's highest court determined its rule forbidding a sentencing judge, sitting without a jury, to find an aggravating circumstance necessary for imposition of the death penalty is procedural. That decision necessarily controls here and we must apply the constitutional harmless error test to *Blakely* violations.

In my view, applying this constitutional harmless error test to the evidence presented to Fero's jury establishes conclusively that the 15-month-old victim was vulnerable because of her young age and that, as the victim's caregiver, Fero had a responsibility to protect the victim from harm. Error in failing to submit these factors to the jury for determination was harmless beyond a reasonable doubt. The uncontroverted evidence presented at trial was so overwhelming that no jury on finding beyond a reasonable doubt that Fero assaulted the child (inflicting a subdural hematoma; bilateral hemorrhages; a laceration on the inside of her labia, large bruises on her cheeks, chin, chest, the area above her vagina, and on the labia majora; and an oblique spiral fracture of her left tibia) would not also have found, if instructed to do so, that Fero owed a duty to protect the child as the child's babysitter, and that a 15-month-old child was vulnerable and by virtue of her age unable to protect herself from Fero's assault.

Thus, on this record, the trial court's failure to submit aggravating sentencing factors to the jury for deliberation as required by *Blakely*, was harmless error. I would affirm Fero's conviction and sentence in all respects and respectfully dissent from that portion of the majority opinion to the contrary.


QUINN-BRINTNALL, C.J.

APPENDIX B

January 5, 2016

IN THE COURT OF APPEALS OF THE STATE OF WASHINGTON

DIVISION II

In re the Matter of the Personal Restraint
Petition of

HEIDI CHARLENE FERRO,

Petitioner.

No. 46310-5-II

PUBLISHED OPINION

LEE, J. — Heidi Charlene Fero was convicted of first degree assault of a child in 2003 for the injuries suffered by Brynn Ackley. The evidence that linked Fero to Brynn’s injuries was that (1) Brynn had fallen unconscious while under Fero’s care and had presented at the hospital with subdural hemorrhaging (brain bruising or bleeding), cerebral edema (brain swelling), and retinal hemorrhaging (retina bruising or bleeding); and (2) all of the doctors who testified on the topic stated that children suffering those injuries become unconscious almost immediately and those injuries can only be caused by car accidents, long falls, or abuse by an adult. Fero now brings this personal restraint petition (PRP) asserting new material facts exist in the form of the now generally accepted medical paradigm that recognizes children can remain lucid for up to three days after suffering similar head injuries and those injuries are now known to be caused by much less extreme circumstances.

We agree that Fero has presented sufficient new material facts to warrant relief because the uncontested declarations of the medical experts she provided establish that the result of her trial

would probably be different if the current generally accepted medical evidence was available at the time of her trial in 2003. Accordingly, we grant Fero's petition and remand for a new trial.

FACTS

A. THE INJURIES

On January 7, 2002, Heidi Fero baby-sat two children—15-month-old Brynn Ackley¹ and 4½-year-old Kaed Frank—at Fero's home in Clark County. Fero's two children—1-year-old Deric and 5-year-old Rachel—were also at Fero's home. Fero had baby-sat Brynn and Kaed on multiple occasions before that day.

Brynn and Kaed were dropped off at about 2:00 p.m. that day, and left in the care of Fero's boyfriend, Dustin Goodwin. Goodwin testified that Brynn's mother carried Brynn into the house in her car seat, which was the only occasion she had done so. Usually, Brynn's mother would bring Brynn and Kaed in, and then go back out for the car seat and diaper bag. Brynn was upset, so Goodwin placed her in a rocking chair to calm her down. When Deric put his hands on her legs she began crying again and needed Goodwin to calm her down.

Fero came home from work at about 3:00 p.m., and Goodwin left for work shortly thereafter. Fero described Brynn as being "distant" and staying wherever Fero set her, instead of following Fero around like she usually did. 5A Verbatim Report of Proceedings (VRP) (Mar. 17, 2003) at 75. Fero saw several bruises on Brynn's body when Fero gave her a bath after dinner. Brynn had been acting tired so, after the bath, Fero put Brynn to bed in a playpen downstairs while she bathed Deric.

¹ Both parties refer to the children by their first names in the briefing; this opinion follows the parties' lead.

While Fero was bathing Deric, Rachel came upstairs to tell Fero that Kaed was hurting Brynn. Fero took Deric out of the bath, put him in his crib, and went downstairs. When Fero got downstairs, Kaed was on the couch. Fero covered Brynn back up before heading upstairs again to finish drying Deric off. As Fero was drying Deric off and putting him to bed, Rachel came upstairs again to tell Fero that Kaed was “banging Bryn’s [sic] head into the wall.” 5A VRP (Mar. 17, 2003) at 81. Fero went back downstairs and testified that she “saw Cade [sic] climbing out of the [playpen], trying to get out of there fast,” and “back over to the couch.” 5A VRP (Mar. 17, 2003) at 82.

Fero went to the playpen and saw Brynn on her hands and knees, “shaking” and “trembling,” with a little blood in her mouth. 5A VRP (Mar. 17, 2003) at 82. Fero picked Brynn up to comfort her. When she thought Brynn had fallen asleep, Fero laid Brynn on a futon that was angled inward so Brynn could not roll off.

Fero then called Brynn and Kaed’s father, Jason Ackley, to tell him she was concerned that Kaed had been hurting Brynn by “pushing Brynn’s head into a wall” and that Brynn could not walk on one leg. 1 VRP (Mar. 11, 2003) at 119. According to Ackley, Fero wanted to know how to discipline Kaed. Ackley said he told Fero to put Kaed in a different room.

Brynn continued to lay on the futon while Fero cleaned the house and the other kids watched a movie. Fero periodically checked on the kids during this time. At some point, Fero noticed that Brynn’s eyes were halfway open—she did not look like she was sleeping, nor did she look like she was awake.

Fero placed her hand on Brynn’s chest and Brynn was breathing, but Brynn would not respond when Fero called Brynn’s name or wiggled her chest. Fero took Brynn to the kitchen and

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tried putting water on Brynn's face to get a response. Fero called her mother at 9:52 p.m. and called 911 at 9:54 p.m.

When the paramedics arrived at 9:59 PM., Brynn was "completely unconscious." VRP (Mar. 10, 2003) at 39. According to the paramedics, Brynn's color was good, except for some "bruising to her forehead, around her nose, and on her chin." VRP (Mar. 10, 2003) at 40-41. The paramedics transported Brynn to the hospital.

Brynn was transported to Southwest Washington Medical Center. There, Dr. Daniel Gorecki performed a CAT (computerized tomography) scan of Brynn's head, chest, and abdominal/pelvic area. The CAT scan of Brynn's head showed a subdural hematoma, which is a blood clot on the brain, and a cerebral edema, which is a swelling of the brain. Brynn was then transferred to Legacy Emanuel Hospital where she was placed in the pediatric intensive care unit.

The following morning, Brynn was seen by Dr. Shawn Goodman, a pediatric ophthalmologist at Legacy Emanuel. Dr. Goodman noted that Brynn had retinal hemorrhages in both eyes. Brynn was also seen that day by Dr. Mike Lukschu at Legacy Emanuel, who noted Brynn had a fractured left shinbone.

The State charged Fero with one count of first degree child assault.

B. NON-MEDICAL TESTIMONY PRESENTED AT TRIAL

The State presented several witnesses whose testimonies refuted portions of Fero's account of what happened. These witnesses included Detective Scott Smith, Officer Scott Telford, and Detective Steve Norton, all with the Vancouver Police Department.

Detective Smith testified that he was directed to investigate around the playpen because that was where he was told Brynn's injury had occurred. He testified that the absence of

indentations left by the playpen indicated that the playpen had not been up against the wall, but was close to the wall. He also testified that Fero had told him Brynn had had a bloody lip in the playpen, but he did not see any blood around the playpen. Detective Norton testified that Fero told him that she wiped the blood off of Brynn's mouth with a handy wipe.

Officer Telford testified that Fero had told him on the night Brynn was injured that she had laid Brynn down on the futon and "within about five minutes she said she checked on Brynn and found . . . that [Brynn's] eyes were glazed over and that [Brynn] was unresponsive." 1 VRP (March 11, 2003) at 88. Detective Norton also testified that the time frame Fero relayed to him was that "from the time she got Brynn out of the crib and put her on the couch until she noticed that something was wrong with her was about five minutes." 2 VRP (March 12, 2003) at 192. This conflicted with Fero's statements that she had checked on Brynn periodically while cleaning the house.

C. MEDICAL TESTIMONY PRESENTED AT TRIAL

The State presented six doctors during the trial who testified on the nature and cause of Brynn's injuries.² Those doctors were Dr. Daniel Gorecki, Dr. Shawn Goodman, Dr. Mike Lukschu, Dr. James Ockner, Dr. William Bennett, and Dr. Kent Grewe.

Dr. Gorecki, the emergency room doctor at Southwest, testified that "the subdural [hematoma] is caused by the shaking, essentially, of the brain within the cranium." 1 VRP (Mar. 12, 2003) at 60. He testified further that he did not believe that a four-and-a-half-year-old boy,

² Dr. Janice Cockrell also testified. Dr. Cockrell was a pediatrician who assumed the care of Brynn when she became more responsive and was moved to the rehabilitation unit of Legacy Emanuel. Her testimony only related to Brynn's motor skills and cognitive function at the time of trial and in the future.

meaning Kaed, could inflict the trauma that Brynn sustained. Dr. Gorecki said he based this opinion on working with kids and keeping up on the literature. Finally, Dr. Gorecki testified that it could take five or ten minutes, or up to as much as two hours, for a child who suffered this kind of trauma to lose consciousness while the swelling in the brain progresses.

Dr. Goodman, the pediatric ophthalmologist at Legacy Emanuel, testified that the retinal hemorrhages in Brynn's eyes were "consistent with nonaccidental trauma." VRP (Mar. 13, 2003) at 63. Dr. Goodman testified that retinal hemorrhages could occur if the patient had been in a car accident or had fallen from several stories, but they were found "most commonly in nonaccidental trauma." VRP (Mar. 13, 2003) at 63.

Dr. Lukschu, the pediatrician at Legacy Emanuel, testified that head injuries like Brynn's were "the result of severe shaking," and he based that opinion on the CAT scans and the presence of retinal hemorrhages. 2 VRP (Mar. 11, 2003) at 191. He testified that subdural hematomas occur "during severe shaking [when] the brain jostles around" in the skull, causing the veins that connect the surface of the brain to the skull through the dural layer to break, and resulting in blood collecting under the dural membrane. 2 VRP (Mar. 11, 2003) at 192. He said the only debate in the medical community was whether injuries like Brynn's required a shaking and impact and most of the medical community believed shaking alone was sufficient. As to Brynn's retinal hemorrhages, Dr. Lukschu testified that he believed shaken baby syndrome was the only way to cause the retinal hemorrhages that extend all the way to the retina. He further testified that this type of injury could not have happened from falling off of a counter or a bed. Finally, he testified that "[w]ith this severe injury She would have been almost immediately unconscious." 2 VRP (Mar. 11, 2003) at 195.

Dr. Ockner, a radiologist at Southwest, reviewed Brynn's CAT scans when she was at Southwest. He testified that a subdural hematoma occurs when the brain is shaken severely or is slammed into something, like in a car wreck, a severe blow to the head, or a fall from a great height; and that it could not occur from falling off a counter top or out of bed. He opined that "something had been inflicted on this patient not by accident" because there was no visible external injury that was indicative of such injury and there was bleeding along the membrane that was indicative of rotational forces. 1 VRP (Mar. 12, 2003) at 92. Finally, Dr. Ockner testified that with this type of "shaking injury, typically a patient loses consciousness right away." 1 VRP (Mar. 12, 2003) at 97.

Dr. Bennett, a pediatric radiologist at Legacy Emanuel, reviewed some of the x-rays and CAT scans from Brynn's file and testified about Brynn's broken leg and head injuries. He testified that the type of force required to produce a head injury like Brynn's would be the "equivalent of being ejected from a motor vehicle and smashing her face into a bank." VRP (Mar. 13, 2003) at 30.

Dr. Grewe, a neurosurgeon at Legacy Emanuel, examined Brynn on the night she arrived at Legacy Emanuel. He also performed the brain surgery on her that night to remove the blood clot and relieved the swelling in her brain. Dr. Grewe testified that there would "[p]robably not" be "any lucid interval between the time she sustained the injury and the onset of the [brain] swelling," "and the swelling usually starts immediately." VRP (Mar. 13, 2003) at 43.

D. PROCEDURAL HISTORY

Fero was found guilty of first degree assault of a child on March 18, 2003. 6 VRP (Mar. 18, 2003) at 212. She appealed, challenging the sufficiency of the evidence, the constitutionality

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of the jury instructions, and the application of an exceptional sentence. *State v. Fero*, 125 Wn. App. 84, 87, 104 P.3d 49 (2005). We affirmed the conviction and, on remand from the State Supreme Court, amended our opinion to require Fero be resentenced within the standard range. *Fero*, 125 Wn. App. at 102. The direct appeal mandated in 2006.

On May 6, 2014, Fero filed this personal restraint petition while she was incarcerated. Fero was released from prison on July 30, 2014, but remains under post-release restrictions.

E. MEDICAL TESTIMONY PRESENTED IN SUPPORT OF THIS PRP³

In support of her PRP, Fero submits the declarations of two doctors specializing in the field of pediatric head trauma: Dr. Patrick Barnes and Dr. Janice Ophoven. Fero asserts that in their declarations, Dr. Barnes and Dr. Ophoven both establish that there has been a paradigm shift in the medical community's understanding of head trauma in children and that Dr. Barnes and Dr. Ophoven both conclude that it was impossible to determine that Brynn's injuries occurred in Fero's care.

1. Declaration of Dr. Barnes

Dr. Barnes is a pediatric neuroradiologist, Chief of Pediatric Neuroradiology at Lucile Salter Packard Children's Hospital, and Professor of Radiology at Stanford Medical Center. He has "practiced and taught on head injury in children for thirty five years, and ha[s] published over one hundred articles, reviews, and book chapters on this subject." Decl. of Barnes at 1-2.

³ Fero also submits several exhibits attesting to her positive influence on others while in prison. These are irrelevant to her petition to this court because they are not material to the conviction. RAP 16.4(c)(3).

Dr. Barnes states in his declaration that since Fero's trial, the understanding of the radiological findings that had been "associated with non-accidental pediatric head trauma have greatly expanded and now include a variety of accidental and natural causes." Decl. of Barnes at 3. Moreover, contrary to what was previously understood, the research since Fero's trial has established that children who suffer trauma, non-accidental or accidental, can remain lucid for three days or more after the trauma is inflicted.

In support, Dr. Barnes cites articles and associated studies from 1987 to 2012, and states, "Over the past decade, many doctors—including myself—have changed their testimony and beliefs to bring them into accord with the scientific evidence and standards of evidence-based medicine." Decl. of Barnes at 5-6. He continues:

Given the new medical research on lucid intervals, the testimony of the State's experts to the effect that Brynn would have immediately gone unconscious is unsupported by the medical literature. It is impossible to tell from the radiology or otherwise in the medical record when Brynn was injured, and there is a significant chance that she was injured before she arrived at Ms. Fero's home.

Decl. of Barnes at 26-27. Dr. Barnes concludes that "[a]t the time of Ms. Fero's trial, many doctors would have agreed with the doctors for the state. . . . However, shaken baby syndrome theories as applied in this case are no longer supported by the scientific literature." Decl. of Barnes at 31.

2. Declaration of Dr. Ophoven

Dr. Ophoven offers a similar opinion and conclusion. Dr. Ophoven is a pediatric forensic pathologist, specializing in "'shaken baby syndrome' and 'abusive head trauma' cases in which violent shaking is alleged to be the cause of serious injury or death of a child." Decl. of Ophoven at 1. She has been in the field for nearly 40 years and currently works as an independent consultant primarily on cases involving allegations of child abuse or neglect. Decl. of Ophoven at 1.

Dr. Ophoven states in her declaration that the nonaccidental or accidental nature of Brynn's injuries cannot be determined by the medical evidence in Brynn's case. Nor can the timing of Brynn's injuries be determined exactly, but it is more likely that she suffered the injuries 12 to 24 hours before arriving at the hospital.

Dr. Ophoven also states that in 2003, "many medical professionals believed that if a child presented with a triad of symptoms, including cerebral edema, subdural hematoma and retinal hemorrhages, that was exclusively diagnostic of abuse by violently shaken" and that symptoms of the brain injuries would manifest immediately. Decl. of Ophoven at 5. These views, she says, were supported by 2001 papers issued by the American Academy of Pediatrics (AAP) and the National Association of Medical Examiners.

Dr. Ophoven explains that since 2003, it has become generally accepted in the medical community that falls from chairs and similar heights can cause the same subdural hematoma, cerebral edema, and retinal hemorrhages in children. There have been documented examples of children falling from 30 inches and suffering significantly worse injuries than Brynn's. The AAP issued a new paper in 2009 acknowledging the advances in the medical understanding of child head trauma.

Dr. Ophoven concludes,

Based on the medical records, my review of the literature, and my experience as a pediatric forensic pathologist . . . it is my opinion that much of the medical testimony presented during Ms. Fero's 2003 trial is no longer scientifically valid in light of recent advances in the medical community's understanding of the natural, accidental and non-accidental causes of cerebral edema, subdural hematoma and retinal hemorrhages.

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Decl. of Ophoven at 3. Further, Dr. Ophoven states that “[b]ased on the new medical evidence regarding lucid intervals and the mechanism and timing of the development of cerebral edema, I have concluded, to a reasonable degree of certainty, that Brynn was injured at least 12 hours before her first CT scan, which would have been before Brynn was dropped off at Heidi Fero’s house.”

Decl. of Ophoven at 10.

ANALYSIS

Fero petitions for release from her continuing post-conviction restraints. She argues that the paradigm shift in the medical community’s understanding of “shaken baby syndrome” and head trauma in children, as described in the declarations of Dr. Barnes and Dr. Ophoven attached to her petition, constitute new “material facts” satisfying the standard for her release under RAP 16.4(c)(3). We agree and grant her petition.

A. STANDARD OF REVIEW

The collateral relief afforded under a personal restraint petition is limited and requires the petitioner to show that she was prejudiced. *In re Pers. Restraint of Stockwell*, 179 Wn.2d 588, 596, 316 P.3d 1007 (2014). There is no presumption of prejudice on collateral review. *In re Pers. Restraint of Hagler*, 97 Wn.2d 818, 823, 650 P.2d 1103 (1982). The petitioner must either make a prima facie showing of a constitutional error that, more likely than not, constitutes actual and substantial prejudice, or a nonconstitutional error that inherently constitutes a complete miscarriage of justice. *In re Pers. Restraint of Stockwell*, 161 Wn. App. 329, 334, 254 P.3d 899 (2011), *aff’d*, 179 Wn.2d 588, 316 P.3d 1007 (2014); *In re Pers. Restraint of Cook*, 114 Wn.2d 802, 810, 812, 792 P.2d 506 (1990). Without either such showing, this court must dismiss the

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petition. *Cook*, 114 Wn.2d at 810, 812; *see also In re Pers. Restraint of Hews*, 99 Wn.2d 80, 88, 660 P.2d 263 (1983).

The petitioner must support her allegations of prejudice with specific evidence. *In re Pers. Restraint of Rice*, 118 Wn.2d 876, 886, 828 P.2d 1086, *cert. denied*, 506 U.S. 958 (1992). Such support may come in a variety of evidentiary forms, but it must be competent and admissible and establish a factual basis for the allegations. *Id.* Bald assertions and conclusory allegations are not sufficient. *Id.*

B. TIMELINESS AND MERITS OF PETITION

Typically, personal restraint petitions must be brought within one year after the judgment becomes final. RCW 10.73.090(1). However, the one year time bar does not apply to a petition based on “[n]ewly discovered evidence, if the defendant acted with reasonable diligence in discovering the evidence and filing the petition.” RCW 10.73.100(1).

Under RAP 16.4, this court will grant relief to a petitioner if the petitioner’s restraint is unlawful because, among other reasons, “Material facts exist which have not been previously presented and heard, which in the interest of justice require vacation of the conviction, sentence, or other order entered in a criminal proceeding.” RAP 16.4(c)(3). The standard for relief under RAP 16.4(c)(3) “is the same as that applied to a motion for new trial based upon newly discovered evidence.” *In re Pers. Restraint of Brown*, 143 Wn.2d 431, 453, 21 P.3d 687 (2001).

Accordingly, for Fero’s case to be timely because there is “newly discovered evidence,” and for Fero’s petition to warrant relief under the RAP 16.4(c)(3) exception, she must establish

“that the evidence (1) will probably change the result of the trial; (2) was discovered since the trial; (3) could not have been discovered before trial by the exercise of due diligence; (4) is material; *and* (5) is not merely cumulative or impeaching. The

absence of any one of the five factors is grounds for the denial of a new” proceeding.

In re Brown, 143 Wn.2d at 453 (quoting *State v. Williams*, 96 Wn.2d 215, 222–23, 634 P.2d 868 (1981) (citations omitted)).

1. Factor 1: Probably Change the Result of the Trial

Fero argues that the result of her trial would probably be different because the medical community’s now generally accepted understanding of brain trauma in children directly contradicts the medical theories that were relied upon to convict her, and she could not have been convicted without the now-refuted medical testimony presented against her. We agree.

Fero specifically points to the testimony of the several doctors who testified that a child would lose consciousness “almost immediately” after the injury, and contrasts that with declarations of Dr. Barnes and Dr. Ophoven stating that it is now known that children can remain lucid for up to three days after suffering the injury. Fero also points to the testimony of the several doctors who testified that the only causes of Brynn’s injuries could have been (1) a major accidental trauma or (2) child abuse, and contrasts that with the declarations of Dr. Barnes and Dr. Ophoven explaining that today there are many acknowledged causes of the injuries Brynn suffered and that using the medical science available today, it is impossible to determine what caused Brynn’s injuries.

At Fero’s trial, the State argued that Brynn’s injuries happened while she was in Fero’s care on January 7 and that the injuries were recklessly caused by Fero. Because no one testified to witnessing Fero inflicting such injuries on Brynn and the only people who were at the house at

the time were children who did not testify that Fero hurt Brynn,⁴ the State had to prove that it was Fero who inflicted Brynn's injuries through the medical evidence and inferences drawn from that evidence.

a. Lucidity after Suffering the Injuries

To establish Brynn was injured by Fero, the State first showed that Brynn must have lost consciousness while she was with Fero. The State relied on statements by Fero and others that she had found Brynn unconscious sometime between when she called Jason Ackley at about 7:45 p.m. and when she called 911 at 9:54 p.m. The State then compared that time frame with repeated medical testimony from multiple doctors that Brynn's injuries were such that she would likely have lost consciousness "almost immediately," but surely not more than two hours, after suffering the injuries. *See, e.g.*, 2 VRP (Mar. 11, 2003) at 195 (Dr. Lukschu testifying, "She would have been almost immediately unconscious."); 1 VRP (Mar. 12, 2003) at 97 (Dr. Ockner testifying that with this type of "shaking injury, typically a patient loses consciousness right away."); VRP (Mar. 13, 2003) at 43 (Dr. Grewe testifying that there would "[p]robably not" be "any lucid interval between the time she sustained the injury and the onset of the [brain] swelling . . . and the swelling usually starts immediately"; VRP 1 (Mar. 12, 2003) at 70, 74 (Dr. Gorecki testifying that it could take five or ten minutes, or up to as much as two hours, for a child who suffered the same kind of trauma to lose consciousness). The conclusion that the State was able to explain to the jury was that Brynn's injuries had to have been sustained when she was with Fero because she had been

⁴ *See* VRP 2 (Mar. 12, 2003) at 214-15 (Officer Norton testifying that Kaed told him he did not see anyone hurt Brynn on the day she was hurt); *see also* 5A VRP (Mar. 17, 2003) at 39-59 (Rachel testifying about the events that night and repeatedly saying it was only Kaed who hurt Brynn).

conscious when she was with everyone else that day and the medical testimony established that she could not have remained conscious for any substantive amount of time after suffering the injuries.

b. Cause of the Injuries

With the medical testimony establishing that the injuries must have occurred while Brynn was in Fero's care, the State next had to show that Brynn's injuries were inflicted by Fero. The State was able to make this showing through the several doctors who testified at Fero's trial that the type of injuries Brynn suffered could only be inflicted through some type of major trauma, like (1) being thrown from a car in an auto accident or falling from several stories up or (2) from child abuse inflicted by an adult. *See, e.g.*, 1 VRP (Mar. 12, 2003) at 60, 63-64 (Dr. Gorecki testifying that Brynn's injuries were caused by shaking, and that it was not conceivable for a 4½-year-old boy to inflict the trauma that Brynn sustained); VRP (Mar. 13, 2003) at 30 (Dr. Bennett testifying that Brynn's injuries required a force "equivalent to being ejected from a motor vehicle and smashing her face into a bank."); 1 VRP (Mar. 12, 2003) at 84, 92, 96-97 (Dr. Ockner testifying that Brynn's injuries were not inflicted by accident because there was no external injury and her injuries would have been caused by an auto accident, a severe blow to the head, or a fall from a great height); VRP (March 13, 2003) at 63 (Dr. Goodman testifying that Brynn's injuries could occur if the patient had been in a car accident or had fallen from several stories, but that they were "most commonly in nonaccidental trauma"); 2 VRP (March 11, 2003) at 191 (Dr. Lukschu testifying that Brynn's injuries were most likely "the result of severe shaking"). Because there were no allegations that Brynn had been in a car accident or fallen from a building, the State was

able to show that the only medically possible explanation for the type of injuries Brynn suffered was child abuse at the hands of Fero.

c. The Medical Community's Current Paradigm

Both Dr. Barnes and Dr. Ophoven submit in their declarations that the medical community's generally accepted understanding of the duration of a child's lucidity after a traumatic head injury and the potential causes for serious head trauma in children, have changed dramatically since Fero's trial in 2003. The testimony in the declarations of Dr. Barnes and Dr. Ophoven refutes the medical testimony that was presented by the medical experts during Fero's trial, but also acknowledges that the medical testimony presented at trial was consistent with the generally accepted medical understanding at that time.

Dr. Barnes and Dr. Ophoven declare that, contrary to what was previously believed, today the medical community recognizes that children can stay lucid for multiple days after suffering a traumatic head injury. See Deborah Tuerkheimer, *The Next Innocence Project: Shaken Baby Syndrome and the Criminal Courts*, 87 WASH. U. L. REV. 1 (2009). Their assertions are not contested by the State and directly contradict the medical testimony that Brynn's injuries had to have happened at Fero's house because that is where Brynn lost consciousness.

Dr. Barnes and Dr. Ophoven also declare that the medical community now recognizes that trauma like Brynn's, which was once believed could only be inflicted by car accidents, long falls, or child abuse, can actually be caused by short falls and other low-impact accidents, in addition to various natural causes. In fact, as Dr. Ophoven points out, under the current paradigm, a child is "more than capable" of causing severe head trauma to another child. Decl. of Ophoven at 4.

Dr. Barnes and Dr. Ophoven further declare that the medical community now generally accepts that there are multiple conditions that “mimic” the symptoms of what used to be classified as “shaken baby syndrome.” Decl. of Barnes at 17; Decl. of Ophoven at 7; Tuerkheimer, *supra*. Thus, under the current medical understanding of the trauma Brynn suffered, and based on the record available at Fero’s trial, Dr. Barnes and Dr. Ophoven state that it is impossible to determine that Brynn suffered the injuries at Fero’s house and impossible to determine that her injuries were recklessly inflicted. This testimony contradicts the certainty of the doctors at trial that Brynn’s injuries had to have been inflicted by Fero.

d. Legal Precedent

Whether the current medical paradigm described by Dr. Barnes and Dr. Ophoven creates a reasonable probability of a different result at trial is an issue of first impression in Washington. Other jurisdictions that have considered the current paradigm’s effect on prior convictions have granted relief to the petitioner.

State v. Edmunds, 308 Wis. 2d 374, 746 N.W.2d 590 (Wis. Ct. App. 2008), presents facts similar to those in this case. In *Edmunds*, a woman was convicted of first degree reckless homicide for allegedly shaking a seven-month-old child. *Id.* at 378. At her trial, the State presented numerous medical experts who testified that the cause of the child’s head injury was violent shaking or violent shaking combined with an impact and that the child’s condition would have appeared immediately abnormal. *Id.* The State then used testimony that the child had appeared normal when she was dropped off with Edmunds to argue that the injuries had to have been caused by Edmunds. *Edmunds*, 308 Wis. 2d at 378. To support her petition for a new trial,

Edmunds presented evidence . . . in the form of expert medical testimony, that a significant and legitimate debate in the medical community has developed in the past ten years over whether infants can be fatally injured through shaking alone, whether an infant may suffer head trauma and yet experience a significant lucid interval prior to death, and whether other causes may mimic the symptoms traditionally viewed as indicating shaken baby . . . syndrome.

Id. at 385-86.

The *Edmunds* court held that this constituted new evidence and warranted a new trial because there was a reasonable probability the result would be different. *Id.* at 392. In holding it constituted new evidence, the court reasoned that “it is the emergence of a legitimate and significant dispute within the medical community as to the cause of [the child’s] injuries that constitutes newly discovered evidence. At trial . . . there was no such fierce debate.” *Id.* And, in holding the new evidence warranted relief, the court reasoned,

Now, a jury would be faced with competing credible medical opinions in determining whether there is a reasonable doubt as to Edmunds’s guilt. Thus, we conclude that the record establishes that there is a reasonable probability that a jury, looking at both the new and the old medical testimony, would have a reasonable doubt as to Edmunds’s guilt.

Id.

In Fero’s case, this court is presented with a scenario similar to that faced by the *Edmunds* court. Fero was convicted of first degree assault of a child for recklessly injuring Brynn. 6 VRP (March 18, 2003) at 212. The evidence against Fero amounted to repeated medical opinions that Brynn’s injuries must have been suffered during Fero’s care because of when Brynn was unconscious and that Fero must have recklessly inflicted the injuries because of the nature of the injuries. *See, e.g.*, 1 VRP (March 12, 2003) at 63-64 (Dr. Gorecki); VRP (March 13, 2003) at 63 (Dr. Goodman); 2 VRP (March 11, 2003) at 191, 196, 202-03 (Dr. Lukschu); 1 VRP (March 12,

2003) at 84, 96-97 (Dr. Ockner); VRP (March 13, 2003) at 30 (Dr. Bennett). Now, in a petition for post-conviction relief, Fero presents medical testimony that there has been a significant *change* over the last 10 years to the medical community's understanding. Under the current generally accepted medical understanding, children can remain lucid after the injury for many hours and these injuries can be caused by something other than severe trauma.

Thus, under the logic relied upon by the *Edmunds* court, a jury in Fero's case today would be faced with medical opinions stating there is no way to determine Brynn was injured during the evening she was in Fero's care nor can it be determined what caused Brynn's injuries. *See Edmunds*, 308 Wis. 2d at 392. Therefore, there is a reasonable probability that the result of Fero's trial would be different given the new medical testimony she presents.

A Texas appellate court similarly granted a habeas corpus petitioner a new trial when she presented medical expert testimony stating that advances in science had shown that the type of injuries sustained by the child she was convicted of murdering "could have been caused by an accidental short fall onto concrete," and that there was no way to tell if the child's injuries were the result of intentional abuse. *Ex Parte Henderson*, 384 S.W.3d 833, 833-34 (Tex. App. 2012). This new testimony was contrary to the testimony presented at her trial by the medical examiner who testified it was impossible that the child's injuries could have been accidental. *Id.*

Fero cites two other cases which come to the same basic conclusions as the courts in *Edmunds* and *Ex Parte Henderson* did: *Del Prete v. Thompson*, 10 F. Supp. 3d 907 (N.D. Ill. 2014); *People v. Bailey*, 47 Misc. 3d 355, 999 N.Y.S.2d 713 (2014). These courts recognized that the medical community's new understanding of head trauma in children and the current paradigm is new evidence warranting post-conviction relief for those convicted through testimony under the

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old paradigm. *Del Prete*, 10 F. Supp. 3d 907; *Bailey*, 999 N.Y.S.2d 713. Specifically, these courts recognize that doctors now know children can remain lucid for much longer periods of time after suffering the injury and that doctors now know there are several causes for injuries once thought to be indicative only of abuse. *Del Prete*, 10 F. Supp. 3d at 956-57; *Bailey*, 999 N.Y.S.2d at 726-727.

We hold that the medical testimony Fero presents probably would change the result at trial. Thus, Fero satisfies the first factor warranting relief under RAP 16.4(c)(3) and *In re Brown*, 143 Wn.2d at 453.

2. Factors 2 and 3: Discovered After the Trial and with Reasonable Diligence

Fero asserts that the evidence she presents to this court in her petition was discovered after her trial and that she was reasonably diligent in finding the evidence. The State responds that Fero “did not exercise ‘reasonable diligence’ in finding this evidence or in presenting it” to this court. Br. of Resp’t at 14. We hold that the evidence Fero presents in her petition was discovered after her trial and could not have been discovered earlier with reasonable diligence.

Fero was convicted in 2003 and was incarcerated at the Washington Corrections Center for Women until her release on July 30, 2014. She asserts, and the State does not dispute, that she has no medical training and that it was impossible for her to keep up with the developments in medical research on shaken baby syndrome.

While a few of the studies cited by Dr. Barnes and Dr. Ophoven were published before Fero’s trial, the majority of the studies they cite were published after Fero was convicted and incarcerated. Moreover, the publishing of one or more articles professing a new viewpoint or describing new evidence does not mean that the generally accepted beliefs of the medical

community change on, or anywhere near, the publication date—the changing of paradigms takes time. This reality is highlighted by the language of the *Edmunds* court, which, in 2008, characterized the shifting paradigm as being a “fierce debate” and a “legitimate and significant dispute within the medical community.” 308 Wis. 2d at 392. Both Dr. Barnes and Dr. Ophoven stated in their declarations that the paradigm shift is a recent development and the current paradigm was not in place when Fero was tried. Therefore, we hold that the evidence was discovered after her trial. Fero thereby establishes the second factor because the current understanding of causation and duration of subsequent lucidity in pediatric head trauma was not accepted at the time of Fero’s trial and was still not generally accepted at least through 2008.

We also hold that Fero exercised reasonable diligence for two reasons. First, there was not a general consensus on the new paradigm until relatively recently. Second, Fero was incarcerated during the majority of the years when the relevant medical literature and case law was being published. Expecting her to keep up with the relevant medical literature and case law while incarcerated is a high hurdle. Furthermore, once she learned of the shifting paradigm, she would still need to find an attorney who would assist her in this petition despite her indigency. Then more time would be needed for the attorney to research and draft the petition and accompanying documents. Thus, under the circumstances of this case, Fero satisfied the reasonable diligence factor.

3. Factor 4: Materiality

Fero asserts that the evidence she presents is material. We agree and hold the testimony of Dr. Barnes and Dr. Ophoven is material. Our Supreme Court has stated that evidence is material if it is admissible and there is a “reasonable probability” that, had the evidence been presented,

“the result of the proceeding would have been different. *Rice*, 118 Wn.2d at 887; *State v. Knutson*, 121 Wn.2d 766, 772, 854 P.2d 617 (1993).

The evidence Fero presents would be admissible. The declarations of Dr. Barnes and Dr. Ophoven are sufficient to establish each as experts under ER 702, and establish their opinions as experts under ER 703. The State does not question Dr. Barnes or Dr. Ophoven as experts or question the opinions they present.

The testimony of Dr. Barnes and Dr. Ophoven is also material. As explained in the discussion on Factor 1 above, the substance of Dr. Barnes’ and Dr. Ophoven’s testimony creates a reasonable probability that the result of Fero’s trial would be different had it been presented. Therefore, we hold that Fero established the fourth factor for warranting relief under RAP 16(c)(3) because the evidence she offered is material to her petition.

4. Factor 5: Not Merely Cumulative or Impeaching

Fero argues the evidence she presents is not merely cumulative nor impeaching. We agree and hold that the testimony of Dr. Barnes and Dr. Ophoven is not merely cumulative or impeaching.

“Cumulative evidence is additional evidence of the same kind to the same point.” *State v. Williams*, 96 Wn.2d 215, 223-24, 634 P.2d 868 (1981) (quoting *Roe v. Snyder*, 100 Wash. 311, 314, 170 P. 1027 (1918)). Here, Dr. Barnes’ and Dr. Ophoven’s testimony is not “of the same kind to the same point” as the testimony of the other doctors presented at Fero’s trial. *Id.* It is, instead, evidence to the opposite point; that opposite point being that Brynn could have remained lucid for up to three days after suffering her injuries and it was impossible to determine how Brynn suffered her injuries.

Similarly, Dr. Barnes' and Dr. Ophoven's testimony is not merely impeaching. "[I]mpeaching evidence can warrant a new trial if it devastates a witness's uncorroborated testimony establishing an element of the offense. In such cases the new evidence is not merely impeaching, but critical.'" *State v. Savaria*, 82 Wn. App. 832, 838, 919 P.2d 1263 (1996); *see also State v. Roche*, 114 Wn. App. 424, 438, 59 P.3d 682 (2002) ("Moreover, the evidence of Hoover's malfeasance is more than 'merely' impeaching; it is critical, with respect to Hoover's own credibility, the validity of his testing, and the chain of custody."). As discussed above, consistent with the generally accepted medical evidence at the time, the medical testimony at trial established that Brynn would have lost consciousness almost immediately after being injured and that her injuries could only be caused by being shaken, slamming head first into something like being in a car accident, or falling from several stories. However, the generally accepted medical paradigm now recognizes that children can remain lucid for up to three days after suffering head injuries and that those injuries are known to be caused by much less extreme circumstances. Thus, we cannot say that the new evidence is "merely impeaching."

5. The State's Arguments are Unavailing

The State's response acknowledges that the factor test applied above is the correct standard to use. But, instead of arguing the factors, the State merely argues that (1) "[a] new medical opinion or new medical theory is not a 'material fact,'" and (2) "a new expert's opinion that the medical community would present different evidence in a trial today than it did when Fero received her trial is not 'newly discovered evidence.'" Br. of Resp't at 13. In support of its argument, the State analogizes *State v. Harper*, 64 Wn. App. 283, 823 P.2d 1137 (1992) and *State v. Evans*, 45 Wn. App. 611, 726 P.2d 1009 (1986), *review denied*, 107 Wn.2d 1029 (1987). We are not

persuaded because these arguments have been addressed in the factor analysis above and the conclusions in *Evans* and *Harper* are easily distinguishable.

In *Evans*, the defendant petitioned the trial court for a new trial on his arson conviction. 45 Wn. App. at 612. In support of his petition, he submitted a new expert's opinion that the fire was caused by defects in the electrical system and was, thus, an accident. *Id.* at 613. In concurring with the appellate court's holding that the defendant was not entitled to a new trial for submitting new material evidence, Judge Reed wrote:

What we have in the instant case is, purely and simply, a question of expert witness competency. Experience has taught us that such "experts" rarely agree. What may be a crucial "fact" to one, may not be to another.

Before affirming the grant of a new trial because the defense expert presented at trial overlooked or thought unimportant a fact or facts now deemed pertinent by an expert who did not testify, we must ask whether all of those defendants who could now unearth a new expert, who finds "new facts"—which if believed by the same jury might cause them to acquit—were denied a fair trial, *i.e.*, failed to receive substantial justice. Surely we have to answer in the negative, or finality goes by the boards and the system fails.

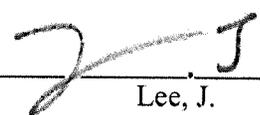
Evans, 45 Wn. App. at 617.

In *Harper*, 64 Wn. App. at 285, the defendant was convicted of attempted premeditated murder, and, at trial, presented a defense of diminished capacity. In support of his subsequent personal restraint petition, the defendant submitted an affidavit from a different doctor who had determined that the defendant had "depersonalization disorder" that prevented him from forming the premeditative intent to kill. *Id.* at 290-91. In reaching its conclusion, the *Harper* court relied on the same concurrence by Judge Reed in *Evans*, 45 Wn. App. at 617-18 (Reed, J., concurring). *Harper*, 64 Wn. App. at 293-94. The *Harper* court held that the new expert's opinion did not

constitute the requisite “material facts not previously presented” standard because the expert reviewed the same evidence and merely presented a new opinion. *Id.* at 294.

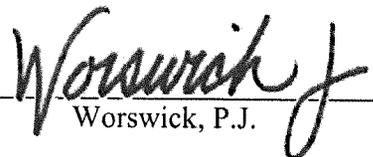
Evans and *Harper* are inapposite to Fero’s case because the experts in *Evans* and in *Harper* provided second opinions based on the same trial record and under the same paradigm as existed at the time of the respective petitioners’ trials. *Id.* at 293-94; *Evans*, 45 Wn. App. at 613, 617. As stated above, and restated briefly below, that is not what happened in Fero’s case.

In Fero’s case, Dr. Barnes and Dr. Ophoven are new experts, but their opinions establish that the scientific explanations that were offered as evidence against Fero in her trial are no longer generally accepted in the medical community. Moreover, their opinions state that based on the record that existed at Fero’s trial and under the currently accepted paradigm, it is not medically possible to determine that Brynn’s injuries occurred when she was with Fero, nor is it medically possible to determine how Brynn’s injuries were caused. Therefore, we hold that Fero is entitled to relief from her post-conviction restraints, grant Fero’s petition, and remand for a new trial.

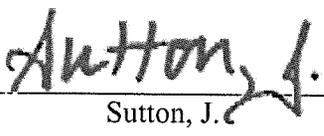


Lee, J.

We concur:



Worswick, P.J.



Sutton, J.

IN THE COURT OF APPEALS OF THE STATE OF WASHINGTON

DIVISION II

FILED
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DIVISION II
2016 MAR -3 AM 9:14
STATE OF WASHINGTON
BY *W* DEPUTY

In re the Matter of the Personal Restraint
Petition of

HEIDI CHARLENE FERRO,

Petitioner.

No. 46310-5-II

ORDER GRANTING MOTION FOR
OVERLENGTH BRIEF;
ORDER DENYING MOTION
FOR RECONSIDERATION AND
MOTION FOR PROTECTION
OF PHOTOGRAPHS

Respondent, State of Washington, moves this court to: (1) reconsider its published opinion filed on January 5, 2016; (2) allow the State to file an overlength brief pertaining the motion to reconsider; and (3) protect photographs attached to its motion for reconsideration as Exhibit A. After review and consideration of the motions, it is hereby

ORDERED that the Respondent's motion to file an overlength brief is granted. It is further ORDERED that the motions for reconsideration and for protection of photographs are denied.

DATED this 3rd day of March, 2016.

Worwick J

WICKSWICK, P.J.

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APPENDIX C

NO. 46310-5-II

IN THE COURT OF APPEALS OF THE STATE OF WASHINGTON
DIVISION II

STATE OF WASHINGTON, Respondent

v.

HEIDI CHARLENE FERRO, Petitioner

CLARK COUNTY SUPERIOR COURT CAUSE NO. 02-1-01117-9

MOTION TO RECONSIDER PUBLISHED OPINION

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A. DECISION OF THE COURT

In a published decision dated January 5, 2016, this Court granted the personal restraint petition in *Personal Restraint of Heidi Fero*. There is no reporter citation as yet available for this opinion.

B. STATEMENT OF RELIEF SOUGHT

The State is asking for reconsideration in this case because this Court overlooked numerous facts, misunderstood or was not fully aware of Brynn's other injuries (which conclusively established that Brynn was assaulted while in Fero's care), and adopted facts that the jury rejected as not credible.

In its opinion, this Court excoriates the State for allegedly failing to contest the credibility of professional defense witnesses Barnes and Ophoven, and electing to argue that this petition is time-barred because the "evidence" in question was neither evidence, nor was it newly discovered. The State is not aware of any authority holding that the State must address claims in a personal restraint petition that the State believes are time-barred, beyond arguing the time-bar. To be clear, the State does not concede that Barnes and Ophoven are credible. Credibility determinations may only be made once the petitioner has overcome her initial burden of establishing that these opinions, if credible, would probably result in an acquittal on retrial, were not known at the time of the trial by her or her lawyer, are material and admissible, and could not have been discovered by the exercise of due diligence by either her

or her lawyers until she filed this petition in 2014. In considering whether newly discovered evidence warrants a new trial, the Court must consider whether the evidence will probably change the result of the trial. "...[W]e do not consider what effect the newly discovered evidence may have on the defendant's case, but rather we weigh the newly discovered evidence against the strength of the State's evidence. *See State v. Peele*, 67 Wash.2d 724, 732, 409 P.2d 663 (1966)." *In re Faircloth*, 177 Wn.App. 161, 168, 311 P.3d 47 (2013). When the State has presented "convincing evidence of guilt and the defendant little or no evidence of innocence, a new trial should not be granted ... upon the offer of any new evidence unless it appears that the newly discovered evidence is of such significance and cogency that it will probably change the result of the trial." *Faircloth* at 168, citing *Peele* at 732.

In awarding Fero a new trial, without even considering a reference hearing, this Court determined that Barnes and Ophoven are credible, and a jury would necessarily credit their testimony on retrial. It was improper for this Court to make that credibility determination. Credibility determinations are to be made by the trier of fact at a reference hearing. Although, to be clear, the State maintains that a reference hearing is not warranted in this case where the declarations of Barnes and Ophoven, in addition to being not credible, are irrelevant to the facts of this case and fail to prove, on their face, that there has been a "paradigm shift" in the diagnosis of abusive head trauma. And if it can

be said that the State “failed to contest” the declarations of Barnes and Ophoven, the State certainly did not concede that the testimony and statements of Heidi Fero, which were not credited by the jury, should now be deemed the controlling facts of this case. This Court, in stark contrast to its opinion in *State v. Fero*, 125 Wn.App. 84, 104 P.3d 49 (2005), took the majority of its facts from the testimony and uncorroborated statements of Fero, whose account was rejected by the jury. This Court, on its own motion, transferred the record from the direct appeal for consideration in this PRP two months before the State filed its brief. The record on direct appeal includes not only the approximately 1,100 page transcript, but pictures of Brynn Ackley taken in the hospital that were designated as exhibits. The State assumed the record would be thoroughly reviewed. The State now attaches the pictures of Brynn Ackley as an appendix to this motion because it appears this Court is under the impression this is exclusively an abusive head trauma case. It is not. It is a case involving a violent assault of Brynn Ackley at Fero’s apartment on January 7, 2002. The pictures of Brynn Ackley remove any doubt about why Fero elected not to challenge the fact that Brynn was assaulted at her apartment on January 7, 2002.

I. Facts

Brynn Ackley and her four year-old brother, Kaed, were occasionally watched by Heidi Fero, a friend of Brynn and Kaed’s father, Jason Ackley.

3/11/03 VRP, p. 116. This would typically occur during swing shift hours (3:30 p.m. to 11:30 p.m.) when Brynn's parents were both working. 3/17/03 VRP, p. 70. The arrangement began two months before the assault on Brynn. Id. at 69. Fero was twenty-four years old and had two children of her own, one year-old Derrick and five year-old Rachel. Id. at 66. Fero also had a job at a furniture store. Id. at 65. Fero did not babysit Brynn and Kaed in the two weeks prior to Brynn's near murder at Fero's home on January 7, 2002. Id. at 72. In fact, Fero had been seriously ill in the two weeks prior to Brynn's assault, having been bedridden and at one point being hospitalized for dehydration. 3/11/03 VRP, p. 89, 3/12/03 VRP, p. 159-60, 173. Fero's apartment was messy to the point of disarray on January 7, to the point that her attorney sought to prevent the jury from seeing a videotape depicting the layout of the apartment because the apartment was "slovenly" and "embarrassing." 3/11/03 VRP, p. 6. Fero, while talking to the police after Brynn was rushed to the hospital, felt the need to apologize to them for the condition of the apartment, saying she'd been sick. Id. at 95. Fero's partner and father of her children, Dustin Goodwin, refused, by his own admission to help around the house. Id. at 173. He expected Fero to do it all. 3/17/03 VRP, p. 73. Fero was clearly exhausted and overwhelmed on January 7, 2002.

Breanna Franck picked up Brynn and Kaed from their father's house after Kaed got out of school that day. 3/11/03 VRP, p. 153. Brynn was fine

while at her father's house, running around and had no trouble walking. *Id.* at 165, *State v. Fero*, 125 Wn.App. 84, 90, 104 P.3d 49 (2005). Brynn also had no bruising on her face. *Id.* at 153, *Fero* at 90. Breanna arrived at Fero's apartment with her children at around 2:00 p.m. *Fero* at 90. When Breanna arrived at Fero's apartment she carried Brynn's car seat, as usual, and Brynn walked in to the apartment on her own. *Id.* at 165. Brynn did *not*, as the opinion states, arrive at the apartment in her car seat. The jury heard the competing accounts of how Brynn arrived at the apartment (the other account coming from the biased Dustin Goodwin, the father of Fero's children), and clearly resolved the factual dispute in the State's favor. "Brynn had neither bruises nor any trouble walking before being left with Fero." *Fero* at 90. Fero arrived home from her job between 2:30 and 3:00 p.m., at which point Dustin left for work and left Fero alone to babysit four kids, aged five and under, for over eight hours. 3/12/03 VRP, p. 159. 3/17/03 VRP, p. 73-74.

Jason Ackley worked with Dustin Goodwin on the swing shift. Jason received a call from Fero at 7:34 p.m. that night¹, on Dustin's cell phone, from Fero. 3/11/03 VRP, p. 116-18. Fero told Jason that Kaed had hit Brynn, and that Brynn couldn't walk on one of her legs. *Id.* at 118. Fero also said that Rachel had told her that Kaed pushed Brynn's head against the wall. *Id.* Jason

¹ Jason thought the call was at 7:45 p.m., but it was later determined by phone records to have been placed at 7:34 p.m.

recalled no discussion of bruising on Brynn. Id. at 120. Even though Fero claimed this had been an ongoing problem with Kaed, she had never before called Jason at work. Id. (The inference being that the purpose of this phone call was to make a record). The next time Jason spoke to Fero was at approximately 10:30 p.m. Id. at 121. Jason had asked Dustin to call Fero so he could check on his kids, and Dustin reported that Fero had been “irate” and got off the phone immediately, saying something happened. Id. Jason waited five minutes and called her again, at which time Fero told him that she’d laid Brynn down to sleep and, after checking on her, found her with her eyes slightly open and not breathing. Id. at 122. Fero also mentioned something about having given Brynn a bath. Id.

Six medical doctors testified at Fero’s trial. Dr. Lukschu is a pediatrician at Legacy Emanuel hospital in Portland. 3/11/03 VRP, p. 174. He has training in child abuse assessment, and has been a consultant on child abuse for Legacy Emanuel. Id. at 175-76. He attends continuing medical education in child abuse once a year. Id. at 177. Child abuse is a clinical diagnosis, diagnosed by a combination of physical findings, laboratory tests, X-rays, clinical symptoms, and patient history. Id. at 176-77. He is familiar with the shaken baby syndrome diagnosis, and testified that depending on how vigorous the assault, symptoms can range from a mild change in mental status and vomiting, on one end of the spectrum, to cardio/respiratory arrest and

severe brain damage on the other. Id. at 179-80. A patient can be slightly dazed to being totally unconscious and not breathing. Id. at 180. The change in mental status, whether slight or serious, would occur immediately in his opinion. Id. at 180. The typical patient is under six months of age, but he has treated a patient two to three years old. Id. at 181. Dr. Lukschu examined Brynn on January 8, 2002, in the ICU. Id. at 182. Brynn was on a ventilator and had cerebral edema and bleeding inside her brain. Id. at 183. She had large bruising on her cheeks, chin, chest, above her vagina and on the labia majora. Id. at 184. She had a laceration on her labia, which he described as a disruption of the skin. Id. It is very unusual to have bruising in the genital area. Id. 187. It would be very hard to get that bruising from a fall. Id. Also, the bruising on Brynn's cheek and face were unusual as well, in that children will typically bruise themselves on their chin, nose, and forehead by falling. Id. at 188.

The multiplicity and location of the bruising led him to opine that the bruises were inflicted, and likely inflicted at the same time. Id. He would expect to see this type of facial bruising within an hour or two of infliction, Brynn's tibial fracture was at an angle, meaning there was a twisting type of force applied to the leg. Id. at 189. The fracture would require a lot of force. Id. In his opinion, a four-and-a-half year-old child would have neither the strength nor the developmental abilities to cause this fracture. Id. at 190.

Regarding abusive head trauma, Dr. Lukschu opined that a child would suffer an immediate loss of consciousness *if* the shaking is severe enough. *Id.* at 193. He did not testify that immediate unconsciousness would occur in all cases of shaking. With the severity of Brynn’s particular brain injury, he opined that she would have been unconscious “almost immediately.” *Id.* at 195. This could mimic sleeping, and it is possible she didn’t shut her eyes. *Id.*

Specifically, Brynn could have had an immediate initial loss of consciousness or major alteration in her level of consciousness, and then come out of that a little bit. *Id.* at 229. Barnes, in his declaration, exaggerates Dr. Lukschu’s testimony. See Barnes Dec. at 26. Dr. Lukschu opined that Brynn would not have had a lucid interval based on the severity of her injury. *Id.* He did *not* opine that lucid interval cannot occur in traumatic brain injury. Fero elected not to ask that question—likely because her theory of the case was that Brynn was injured while in her care at the hands of Kaed. He opined that a four year-old would not have had the strength required to shake Brynn hard enough to cause this severe injury. *Id.* at 196. He opined that with a brain injury as severe as Brynn’s, it would likely not have resulted from falling off a counter or a bed. He did *not* opine that traumatic brain injury cannot occur from short falls. Again, Fero chose not to ask that question, likely not only because she argued that Kaed deliberately inflicted this injury, but because Brynn did not suffer a fall. Finally, Dr. Lukschu testified there are “many causes of retinal

hemorrhages,” including birth injury, being squeezed, bleeding disorders, and severe trauma. Id. at 197-98.

Dr. Gorecki is an emergency room doctor at Southwest Washington Medical Center, where Brynn was initially brought. 3/12/03 VRP, p. 49. Brynn arrived at SW at 10:20 p.m. Id. at 53. She presented with injuries to her face, torso, and genitals. Id. at 53. The bruise on the vulva was accompanied by bleeding. Id. at 76. The injuries (bruising, blood) depicted in the photographs of Brynn were not due to medical treatment. Id. at 54-55. Brynn was deemed too sick to remain at SW Medical, and was transferred to Legacy Emanuel hospital at 11:45 p.m. that night. Id. at 61. In Dr. Gorecki’s opinion, based on clinical experience and keeping abreast of the literature, a four-and-a-half year-old child could not have inflicted all these injuries. Id. at 64. It would take quite a bit of repetitive force to inflict these injuries, and children, even if they cause one bruise, are unlikely to continue the behavior “unabated.” Id. at 64. Dr. Gorecki testified that the onset of unconsciousness in a brain injury depends on the swelling of the brain. Id. at 70. Dr. Gorecki did not testify, as Barnes claims in his declaration, that Brynn lost consciousness immediately after infliction of the injury. See Barnes Dec. at 26.

Dr. Ockner, a radiologist at Southwest Washington Medical Center, testified about the mechanism of traumatic brain injury. 3/12/03 VRP, p. 77-

97. Dr. Ockner has completed a fellowship in neuroradiology. *Id.* at 78. *Inter alia*, he testified that *if* a blow to the head or shaking is severe enough, it would “typically” result in loss of consciousness right away. *Id.* at 97. He did not testify, as Barnes claims in his declaration, that Brynn lost consciousness immediately after infliction of the injury. See Barnes Dec. at 26.

Dr. Kent Grewe is a neurosurgeon at Emanuel Hospital who treated Brynn. 3/13/03 VRP, p. 36-37. Brynn required three brain surgeries. P. 38, 44. In her first surgery, a large flap of her skull was removed to allow her brain to swell and a large blood clot was removed. *Id.* at 38. An intercranial pressure monitor was put into her head. *Id.* Brynn suffered a large stroke on the left side of her brain. *Id.* at 42. Dr. Grewe testified that Brynn would likely not have had a “lucid interval” following the injury, based on the gravity of her injury. *Id.* at 43. Dr. Grewe defined his use of the term “lucid interval” to mean that the child is fine for that period of time, perhaps after an initial period of unconsciousness from which they wake up and seem normal, and then slowly decline thereafter. *Id.* Dr. Grewe did not testify that a child with traumatic brain injury cannot have a lucid interval. Dr. Grewe did not think Brynn would appear normal after sustaining this injury, which is consistent with both versions offered by Fero in her inconsistent accounts of what occurred: In the first account, Brynn suffers the injury at the hands of Kaed more than two hours before she called 911, during which time she believed

Brynn was asleep on the futon. In the second account, Brynn suffers the injury at the hands of Kaed a matter of minutes before she calls 911. In both accounts, Brynn is altered mentally. Dr. Grewe testified that after this injury was inflicted Brynn could have been moving a little and moaning, and her eyes could be open or closed. *Id.* at 47.

Dr. Goodman is a pediatric ophthalmologist. 3/13/03, VRP p. 52. She testified that Brynn had hemorrhages in both her retinas, which is frequently consistent with trauma (although not always). *Id.* at 63. They could be a result of accidental or nonaccidental trauma. *Id.* at 63. Dr. Goodman testified she could not distinguish the mechanism of injury by the retinal hemorrhages. *Id.* at 67. Dr. Goodman agreed that retinal hemorrhages cannot be equated with child abuse. *Id.* at 70-71. Dr. Goodman testified that she would be surprised that blows from a toy plastic hammer could cause the retinal hemorrhages. *Id.* at 74. Brynn had no history of abnormal bleeding which would explain the hemorrhages. *Id.* at 75-76.

Dr. Bennett is a pediatric radiologist at Emanuel Hospital. 3/13/03 VRP, p. 6. He has extensive experience with pediatric patients who've suffered broken bones. *Id.* at 8. He explained that bones can be broken intentionally. *Id.* Dr. Bennett testified extensively about "toddler fractures," and explained why Brynn's tibial fracture was not a "toddler fracture." *Id.* at 10-14. Brynn's tibial fracture was in the mid-part of the left tibia, and it was

“significantly displaced.” Id. at 13, 31. Unlike a toddler fracture in which the fracture line is barely visible, in Brynn’s fracture the bone was pulled apart. p. 15. The fracture was caused by a torsional, twisting force as opposed to a direct blow to the leg. Id. at 16. This fracture also would not have been caused by someone jumping on the leg, unless a twisting component were applied. Id. at 16. He testified to a reasonable degree of medical certainty that a four-and-one-half year old child could not twist Brynn’s leg hard enough to cause this fracture. Id. at 17. This is a violent injury, and a four-and-a-half year old would not be strong enough to break Brynn’s leg. Id. Children’s legs do not yield easily. Id.

A child would not walk on her leg at all with this fracture. Id. at 16. It would be too painful. Id. Indeed, the example X-rays that Dr. Bennett used to illustrate a toddler fracture were taken from a toddler who refused to walk on his leg with that comparatively minor fracture. Id. at 11-12.

Dr. Bennett testified that if blows to the face had caused Brynn’s extremely severe brain injury, the force of the blows would have destroyed the face. Id. at 34. One would not see merely swelling and bruising but destruction of all the bones of the face. Id. Dr. Bennett did not believe that a four year-old could cause this brain injury. Id. at 34.

Rachel Fero, who was five at the time of the assault, testified in her mother’s defense. Her testimony was wildly inconsistent and, at times,

appeared scripted—at least to defense counsel, who devoted his re-direct examination to rehabilitating her. 3/17/03 VRP, p. 39-57. She testified that her mother got mad at Kaed when “she was hurting Brynn,” but quickly amended it to “he.” Id. at 43. She testified that she saw Kaed go into Brynn’s play pen “ten times,” but then she said it was “ten minutes.” Id. at 45. She later changed it back to Kaed having been in the play pen “ten times.” Id. at 50. She said that Kaed hurt Brynn “three times.” Id. She testified Kaed hit Brynn with the toy plastic hammer two times. Id. at 52. She testified Kaed pushed Brynn’s head against the wall while Brynn was standing in the play pen (on her supposedly already broken leg). Id. at 51. Brynn didn’t fall down in the play pen. Id. Rachel testified she did not play with Kaed that night. Id. at 47. She later testified she, Kaed, and Brynn were running around playing, and Rachel told the Detective Norton that Brynn was a “fast runner.” Id. at 48. Rachel testified Brynn never went upstairs that day, and that Fero did not give Brynn a bath. Id. at 50. Rachel was cross-examined on what “slamming” means, and she replied “I don’t know what that means.” Id. at 55. When confronted with her use of that term at a pre-trial hearing, she said “it means hurting you,” but didn’t “remember that word.” Id. Rachel didn’t speak to Detective Norton until January 9, 2002. Id. at 60.

Fero, for her part, made so many inconsistent statements that they are too numerous to list in this motion. Special attention should be paid to what

she told the following witnesses: Brian Dohman (lead paramedic), Jeff Tone (paramedic), Scott Smith (detective), Steve Norton (detective), Scott Telford (responding officer), as well as Jean Fero and Dustin Goodwin, to whom she made numerous self-serving, uncorroborated statements. Special attention should also be paid to her accounts of Brynn “limping,” which she changed at trial to Brynn not walking at all. 3/17/03 VRP, p. 97. Dustin, who made no pre-trial statements to the police, likewise testified that Brynn did not walk in his presence. 3/11/03 VRP, p. 157. It is reasonable to assume that this testimony was tailored to meet the expected testimony of Dr. Bennett, in which he testified that Brynn would not have walked at all on the fractured leg.

Of great concern to the State is that this Court’s opinions adopted facts that came from either Fero or her partner Dustin Goodwin. This is inappropriate. Not only is it not the role of this Court to make de novo credibility determinations, but the jury *rejected* Fero’s account of what happened that night. Fero’s account was offered both through her testimony and her numerous (and inconsistent) pre-trial statements. Her account, if believed by the jury, would have exonerated her. But she was convicted, because the jury didn’t believe her. It is not the proper function of this Court to say that the jury should have believed her, and to substitute Fero’s “facts” for the actual facts relied upon by the jury. Credibility determinations are to be

made solely by the trier of fact, and may not be revisited on appeal. *State v. Camarillo*, 115 Wn.2d 60, 71, 794 P.2d 850 (1990). Each and every fact listed in paragraphs 4, 5, 6, 7, 9, and 10 of this Court’s opinion came from Fero or Dustin, and they are presented as though true. Fero did not, as this Court claims, see several bruises on Brynn’s body when she gave Brynn a bath. Fero initially denied even giving Brynn a bath. When she called Brynn’s father, she did not mention bruising on Brynn—much less bruising on her vagina and above her vulva, which is extremely unusual. Fero’s statements about seeing bruising on Brynn during the bath came much later, and were only made to her mother and Dustin—not to the paramedics or the police. These statements were nothing more than post hoc storytelling by Fero, tailored to the facts that came out after Brynn was examined at the hospital. It must be remembered that according to Fero, she went to the hospital that night and briefly spoke with both Jason Ackley and Breanna Franck. 3/17/03 VRP, p. 95. Also untrue is Fero’s claim, presented as fact by this Court, that Fero “‘saw Kaed climbing out of the [playpen], trying to get out of there fast’ and ‘back over to the couch.’” *PRP of Fero*, p. 1. These quotations come from Fero’s testimony, which was rejected. Also untrue—because the jury rejected her testimony—is Fero’s claim that she saw Brynn on her hands and knees, shaking and trembling, and that she picked her up and tried to comfort her. *PRP of Fero*, p.2. This comes exclusively from the mouth of Fero. There is no reason to

believe this happened. Fero's account of leaving Brynn on the futon while she cleaned house, "periodically" checking on her until she noticed something was wrong are presented by this Court as actual facts, as though the jury adopted them. *RPR of Fero*, p. 2. This wholesale adoption of facts that came exclusively from a convicted defendant, whose credibility was assessed by the jury after hearing all of the evidence and watching her testify, is alarming to the State.

Mark Muenster, Fero's retained attorney, declared his theory of the case at a pre-trial hearing: Kaed caused Brynn's injuries. 2/23/03 VRP, p. 7. He agreed that this case involved non-accidental injury. *Id.* at 46. The question was merely who inflicted it.

For the reasons set forth below, the State asks this Court to reconsider its opinion in this case and deny the petition.

II. *The new medical opinions would not probably change the result of the trial.*

a. Alleged "paradigm shift" not relevant to the facts of this case

This petition, unfortunately, is an ineffective assistance of counsel claim masquerading as a newly discovered evidence claim. In a child abuse case in which the head trauma is the *only* evidence of assault, lucid interval can be relevant where it would expand the universe of suspects. It is a well-

recognized trial strategy to argue that the act that caused the head trauma did not occur while the child was in the defendant's care. The opinion recognizes this, in holding that the potential for a so-called "lucid interval" would probably change the result in this case. But this holding is incorrect for the same reason that Fero did not receive ineffective assistance of counsel: Brynn Ackley was assaulted *at Heidi Fero's house*. "Lucid interval," much like the litany of other conditions the declarants point to in their declarations has *no relevance* to this case. This is not merely an abusive head trauma case. The State asks this Court to review the pictures of Brynn taken in the hospital after her brain surgery, several of which were transmitted to this court as exhibits in the direct appeal. The pictures reveal that Brynn was brutally assaulted. Indeed, Brian Dohman, the lead paramedic who initially treated Brynn that night, testified that during the twenty minute ambulance ride Brynn's bruising progressed rapidly, especially around her face. 3/11/03 VRP, p. 23. Dr. Lukshcu, the pediatrician with special training in child abuse assessment, testified the pattern of bruising could have been consistent with a hand grabbing Brynn's face. *Id.* at 227. Dustin Goodwin testified that Brynn had no noticeable bruising to her face when her mother brought her over. 3/12/03 VRP, p. 158. During the 7:34 p.m. phone call Fero placed to Brynn's father, she did not mention bruising on Brynn. 3/11/03 VRP, p. 120. Moreover, it is obvious that Brynn did not arrive at Fero's apartment in that condition. No

reasonable person would receive a child in that condition and let it pass without comment or action. Brynn clearly did not have these injuries when she arrived at Fero's.

The pictures of Brynn are shocking. The bruising around the vulva, in particular, reveals a vicious assault. It appears that Brynn was kicked—hard—directly against her vagina, sans diaper, with her legs spread, and was either kicked or stomped above the vulva. The impact was so hard that it caused a laceration. The pictures make it clear why Mark Muenster, Fero's retained and highly respected attorney, chose not to deny that Brynn was assaulted at Fero's, nor did he try to push back the timing of the assault by arguing "lucid interval"—which was a known concept at the time of trial and even discussed during the medical testimony.² To do so would have been ludicrous. Mr. Muenster had four possible defense theories from which to choose: 1) Accidental infliction of all injuries. The pictures of Brynn, as well as her displaced spiral tibia fracture, precluded this theory. No person would believe it. 2) Intentional infliction of *all* injuries, having occurred up to three days prior to Brynn's arrival at Fero's house. This is the theory in which "lucid interval" would play center stage, and it is nonsense. No one would believe that all of these injuries occurred prior to Brynn's arrival at Fero's, much less

² Lucid Interval was discussed in the oft-cited *Interval Duration Between Injury and Severe Symptoms in Nonaccidental Head Trauma in Infants and Young Children*, M.G.F. Gilliland, 43 J. Forensic Science 1998, 723-725, attached as Exhibit 4 in Appendix B.

three days prior as Ophoven postulates in her far-fetched declaration. 3) Head injury occurring up to three days before Brynn's arrival at Fero's (either by accidental or non-accidental infliction), with remaining injuries occurring at Fero's at the hands of Brynn's four year-old brother, Kaed. This is the "lightning strikes twice" theory, equal to theory #2 in its folly. It would require the jury to believe in unbelievable coincidence; to believe that Brynn was just the unluckiest child in the world. No reasonable juror would believe this, and no competent attorney would argue it. This unreasonable defense, if offered, would rely on "lucid interval." 4) Kaed did it—at Fero's house. This is the defense that Fero selected, and it was the only viable defense. In light of the candid admissions of Kaed's parents that he could be rough with Brynn, and in light of Kaed's presence at the apartment for the entire time that Fero was with Brynn (although not a witness to anything that occurred upstairs, where Fero bathed Brynn), this was an excellent trial strategy. That the jury did not agree with it is of no moment.

In addition to the serious bruising, the spiral tibial fracture is a critical piece of evidence in this case, if not the key piece of evidence. That this Court gave it such brief mention, and no examination, is confounding. First, the presence of a long bone fracture coupled with the severe head trauma that Brynn suffered is indicative of non-accidental infliction of *both* injuries. See Exhibit 2 at Appendix B, p. 968. Second, the fracture was spiral, displaced,

and the result of violent twisting or torsional force, according to Dr. Bennett. The declarations of Barnes and Ophoven do not refute this or even address this. Finally, the fracture was sustained *at Fero's house*. This is not a fact in dispute. It is true that Fero and her partner, Goodwin, made late statements—(statements that were a clear attempt to tailor Fero's story to the facts)—that were intended to suggest that Brynn arrived at the house with the fracture. These statements were both provably false and, more importantly, fully heard and rejected by the jury.

Among these statements: Goodwin's testimony that Brynn arrived in a car seat and did not walk into the house on her own. As noted in the factual statement, *supra*, this is false. Brynn's mother carried the car seat into the house, and Brynn walked in on her own. Brynn's father, Jason, testified that Brynn was running around on her leg at his house that day, without difficulty. Fero told Jason Ackley in the 7:34 p.m. phone call that Brynn was unable to walk on a leg. As the State posited to the jury at trial, this was likely because Fero had already committed the assault that caused the spiral tibial fracture and was developing her explanatory story. Later, to the 911 operator, Fero said that Brynn was earlier being "chased" by her brother. 3/17/03, p. 98. Chased on a significantly displaced fracture? Fero and Goodwin's testimony that Brynn did not even attempt to walk or use her legs while at their apartment that day was clearly rejected by the jury. As the State noted in

argument to the jury, Brynn was a 15-month old baby. It is not believable that in the eight hours she was at Fero's house, she did not even attempt to walk. (And even if this were true, wouldn't Fero have found that strange? Wouldn't that warrant its own phone call to one of Brynn's parents?) Moreover, a child who had sustained this fracture would be in extreme distress. Fero testified that Brynn was "distant" when she was there that day. "Distant" would not come close to describing the distress Brynn would have been in with this fracture.³ Again, it must be stated that the jury rejected Fero's account of what happened that day. Finally, Fero's daughter, Rachel, defeated Fero's attempts to suggest that Brynn arrived at the apartment that day with the fracture. During the State's cross examination of Rachel, she revealed that, in fact, she and Kaed had been running around with Brynn, and that Rachel told the police that Brynn was a "fast runner." *Supra*. Brynn did *not* arrive at Fero's house with the tibial fracture. She sustained it while in Fero's care.

The opinion in this case, as well as the Barnes and Ophoven declarations, ignores the spiral displaced tibial fracture and its implications for this case almost entirely. The declarations do not dispute or call into question Dr. Bennett's testimony that Brynn would not have been walking on this leg.

³ The State's theory of the case, which it maintains, is that Brynn was likely in such distress after Fero violently twisted her leg and fractured it, possibly during the bath upstairs that Fero initially denied giving Brynn, that Brynn's ensuing crying caused the exhausted, overwhelmed Fero to further violently assault Brynn, resulting in the abusive head trauma as well as the extreme bruising depicted in the photographs of Brynn in the hospital.

The declarations do not call into question Dr. Bennett's testimony that the fracture resulted from twisting force. If Brynn arrived at the house with the fracture, then Rachel Fero, Breanna Franck, Jason Ackley, and Heidi Fero (in her pre-trial statements and statements to 911), all lied. That is simply not believable. Brynn did not arrive at Fero's house with her leg already fractured. This Court should reconsider the importance of this evidence in conjunction with the pictures depicting Brynn's actual injuries.

In holding that the declarations of Barnes and Ophoven would probably change the result at trial, this Court relies on *State v. Edmunds*, 308 Wis.2d 374, 746 N.W.2d 590 (2008) stating *Edmunds* presents facts similar to this case. This is not accurate. The facts of this case are nothing like the facts in *Edmunds*. In *Edmunds*, there were no outward signs of injury to the child other than the extremely severe brain trauma and a bruise on her scalp from an impact injury. *State v. Edmunds*, 229 Wis.2d 67, 598 N.W.2d 290 (1999). There wasn't extensive, recent bruising on the child's face, torso, and vagina. There wasn't a significantly displaced long bone fracture caused by violent twisting. Thus, *Edmunds* was exclusively an AHT case. This case, unlike *Edmunds*, involved a brutal, full-body assault. It involved an accompanying long bone fracture. The reasoning in *Edmunds* does not support the conclusion that the result of this trial would probably be different if the information contained in the Barnes/Ophoven declarations were presented to a jury.

Moreover, it is important to understand that Wisconsin employs a different test for awarding a new trial on the basis of newly discovered evidence. Importantly, Wisconsin's test contains no bar for evidence that is merely impeaching. *Id.* This Court's reliance on *Edmunds* is misplaced.

Applying the standard set forth in *Peele, supra*, the new opinions offered by Fero would not probably result in her acquittal in a new trial. Additionally, there has been no paradigm shift in the diagnosis of abusive head trauma. That a small group of experts are willing to disagree with the overwhelming weight of medical opinion on abusive head trauma does not establish a "paradigm shift."

b. No paradigm shift

This Court's opinion not only holds that the current opinions offered by Barnes and Ophoven demonstrate a paradigm shift in the medical field, but that testimony on abusive head trauma such as was offered in this case (specific to Brynn's injury) are inadmissible under *Frye v. United States*, 293 F.1013 (D.C. Cir. 1923). ("The scientific explanations that were offered as evidence against Fero in her trial are no longer generally accepted in the medical community." *PRP of Fero* at 14). This is an extraordinary holding, and the first appellate holding of its kind the State could find nationwide. In *In re Morris*, 189 Wn.App. 484, 355 P.3d 355 (2015), Division I of this Court disagreed with that premise, holding:

Abusive head trauma as a diagnosis, and shaking as a cause of such injuries, are generally accepted theories in the relevant scientific community. At trial, the State offered position papers from the American Academy of Pediatrics, the Academy of Ophthalmology, and the National Association of Medical Examiners, as well as a publication from the Centers for Disease Control and Prevention. Each of these recognizes abusive head trauma and accepts shaking as a mechanism for injury. Further, the State now presents a 2011 article listing various international and domestic medical organizations “that have publicly acknowledged the validity of [abusive head trauma] as a medical diagnosis.” Among the 15 listed is the World Health Organization. The article further states that “it is virtually unanimous among national and international medical societies that [abusive head trauma] is a valid medical diagnosis.” And it states that while some courts have concluded that the diagnosis is based on inconclusive research, the vast majority have not.

In re Morris, 189 Wash. App. 484, 493-94, 355 P.3d 355, 360 (2015), as corrected (Sept. 3, 2015). (The 2011 article referenced above is cited below and can be accessed at www.law.uh.edu/hjhlp/volumes/Vol_11_3/Narang.pdf). The State strongly urges this Court to reconsider its holding that medical testimony regarding Brynn’s injuries and establishing the diagnosis of abusive head trauma does not meet the standard for admissibility set forth in *Frye*.

Fero argued in her PRP, and this Court accepted, that “the medical community’s now generally accepted understanding of brain trauma in children directly contradicts the medical theories that were relied upon to convict her....” Slip Op. p. 13. This argument pre-supposes a major paradigm shift in the way that the medical community generally thinks about abusive head trauma and shaken baby syndrome. This supposition is incorrect.

Contrary to what Drs. Barnes and Ophoven declare, there has been no major paradigm shift in the way the medical community generally understands abusive head trauma and shaken baby syndrome and thus there is no newly discovered evidence.

This Court relied heavily on the idea of a lucid interval, which Fero promoted in her PRP as though this was a newly accepted medical theory. The idea and medical understanding of a lucid interval was around for years prior to Fero's 2003 trial despite Drs. Barnes' and Ophoven's declaration that the medical community's general understanding of lucid intervals has changed since 2003. As discussed above, Fero elected a trial strategy that was based on all the evidence and not simply the medical evidence regarding the head trauma.

Despite what Drs. Barnes and Ophoven would have this Court believe, there is no controversy surrounding abusive head trauma. "Despite all the ballyhoo, there has been no paradigm shift in the scientific support for the diagnosis of AHT/SBS. The empirical evidence includes a continuously growing body of 'evidence-based, peer-reviewed medical literature with 40 years of contributions by pediatricians, neuroradiologists, clinical and forensic pathologists, ophthalmologists, and physiologists clearly supporting the construct of a medical diagnosis of AHT.'" Joelle Moreno and Brian Holmgren, *Dissent Into Confusion: The Supreme Court, Denialism, and the*

False 'Scientific' Controversy over Shaken Baby Syndrome, 2013 UTAH L. REV. 153, 160 (2013). In fact, AHT/SBS is an incredibly well-researched discipline comprising thousands of case studies, at least two treatises that comprise over 800 pages on the topic, 14 chapters, 700 peer-reviewed, clinical medical articles comprising thousands of pages of medical literature, published by over 1,000 different medical authoris from at least 28 different countries. Dr. Sandeep Narang, *A Daubert Analysis of Abusive Head Trauma/Shaken Baby Syndrome*, 11 HOUS. J. HEALTH L. & POL'Y 505, 539-40 (2011). (This article was cited in *Morris, supra*, and can be found at www.law.uh.edu/hjhlp/volumes/Vol_11_3/Narang.pdf.) This well-researched and generally accepted medical theory has been and continues to be supported and accepted by many major accredited organizations including the World Health Organization, the Royal College of Paediatrics and Child Health, the American Academy of Pediatrics, the American College of Radiology, the American College of Surgeons, the American Association of Neurologic Surgeons, The American Academy of Family Physicians, and many others. *Id.* at 574-76. Given the abundance of support for AHT/SBS in the medical community, it is confusing to some as to why some Courts have been convinced that there is a “significant and legitimate debate in the medical community” as no such legitimate debate exists. *Id.* at 592.

One cause of this confusion may stem from the medical community's shift from "shaken baby syndrome" to "abusive head trauma" to name this increasingly concerning type of child abuse. American Academy of Pediatrics, *Understanding Abusive Head Trauma in Infants and Children*, June 2015, p. 2 (attached as Exhibit 1 at Appendix B). This name change was the result of a policy statement "which has been mischaracterized in subsequent legal and medical literature and in court testimony to suggest that the AAP no longer recognizes shaken baby syndrome as a legitimate diagnosis." *Id.* There is no legitimate medical debate among the majority of practicing physicians as to the existence and validity of AHT/SBS. *Id.* at p. 3. "The only real debate and controversy appear to be in the legal system and the media." *Id.* As Christopher Spencer Greeley noted in *Abusive Head Trauma, A Review of the Evidence Base* (attached in Appendix B) at p. 971,

The debate surrounding AHT is neither scientific nor medical, but legal. Although some authors question the specificity of the clinical findings, there is near complete agreement, even among skeptics, that shaking an infant is dangerous and can be fatal. As in the anti-vaccine effort, many skeptics of AHT misrepresent or simply misunderstand the breadth of the published medical evidence and introduce this into courtrooms as so-called new science.

So why are there some experts saying such a debate does exist and this is new from after 2003? Some believe self-interest driven "experts" are to blame for this "false controversy." Moreno et al., *supra*, at 159. Most of these who fuel the false controversy "base their assertions on selective or improper

citation to outlier medical papers that: (1) rely on unscientific methods; (2) are written almost exclusively by self-interested and highly-paid defense witnesses; and (3) ignore the vast quantity of valid, easily accessible, evidence-based medical research and the many public and professional statements that substantial AHT/SBS as a clinically valid diagnosis.” *Id.*

Not all experts are created equally. Medical journals, likewise, are not created equally, and publication in one journal is not a determination that the author has used scientifically sound methods and reached valid conclusions. *Id.* at 163. Often, judges are unaware of the fact that many of these papers or articles have encountered overwhelming evidence-based critique from a broad range of medical professionals and are generally seen as having been written for the purpose of maintaining the authors’ lucrative careers as defense witnesses. *Id.* at 177. For example, one such article authored by Fero’s expert, Dr. Barnes, received significant critique. His 2008 article, “Rickest vs. Abuse: A National and International Epidemic” was not a peer-reviewed article, but instead was a “comment” which received significant critique including one that noted “that several cases presented by Drs. Barnes and Keller contained significant omissions including findings not seen by several other radiologists who reviewed the films and the authors’ failure to disclose their role as defense experts who routinely testify in cases where this defense is advanced.” *Id.* at fn. 48. Those seeking to advance the “false controversy”

surrounding AHT/SBS have been forced to rely upon the same handful of defense-employed witnesses who regularly testify for the defense, including Dr. Barnes. *See id.* at 176.

This Court relied upon the decision in *State v. Edmunds* (2008), *supra* to support its conclusion that there has been a paradigm shift and a “fierce debate” and a “legitimate and significant dispute within the medical community” regarding AHT/SBS. Slip Op. at 21. “*Edmunds* marks the tipping point for the new false controversy.” Moreno et al., *supra* at 174. *Edmunds* is not evidence of a paradigm shift. It is simply one state court judge finding a small group of doctors credible, only one of these doctors was actually engaged in the diagnosis of child abuse. This is not a paradigm shift, but rather one judge finding a couple doctors credible, despite the fact that this finding “is contradicted by four decades of scientific consensus on the AHT/SBS diagnosis across a wide range of pediatric medical subspecialties and countless physicians who are more credible because they actually diagnose abuse as part of their medical practice.” *Id.* at 173.

Claims of a paradigm shift over AHT/SBS “completely mischaracterize the existing medical evidence.” *Id.* at 161. For over four decades, the medical acceptance of AHT/SBS has been significantly documented in thousands and thousands of pages of medically accepted journals, articles, texts, treatises and chapters. This well-recognized theory,

like all well-recognized medical theories (that vaccines do not cause autism, for example) have those who seek to challenge it; such challenges do not create and have not created here, a paradigm shift which has significantly changed the generally accepted medical science that was presented in Fero's trial. The science remains valid. The defense chose to blame the injuries on another person present at the time at Fero's house instead of seeking out an already available defense that she arrived at the house with the injuries and was seen by Fero during a lucid interval. Not only has there been no paradigm shift, but the evidence against Fero was strong and well-accepted in the medical community then, and remains well-accepted now. Fero did not show newly discovered evidence in the form of a paradigm shift which would probably change the result of the trial.

In addition to the extensive literature debunking the opinions of Barnes and Ophoven, their declarations fail to meet the high burden for the award of a new trial. It is important to note that the declarations do not state which materials Barnes and Ophoven reviewed in rendering their opinions. They merely state they reviewed the "materials provided." Did that include the pictures of Brynn? Barnes and Ophoven's statements that it cannot be determined that the injuries sustained by Brynn were not accidental, and that the bruising could have been from "normal play" and were possibly "normal toddler bruises" demonstrates that these so-called experts did *not* review the

pictures of Brynn. Barnes Dec. at 27, 31. Normal toddler bruises? Is Barnes serious? If Barnes and Ophoven did review the photographs, then we can reliably conclude that a jury will not credit their testimony at retrial. In fact, they will be laughed at. It also must be noted that nowhere in Barnes' declaration does he say that his opinions are generally accepted within the relevant scientific community. The declarations contain generalities about many doctors who agree with them, but they don't given numbers or names. How many doctors now hold the opinion that you cannot diagnose abusive head trauma conclusively? Who are they? The declarations also grossly overstate the State's evidence. The doctors in Fero's trial did not all testify that Brynn would have become immediately unconscious. This is an exaggeration of the testimony presented. From the declarations, all the State can discern is that there are two experts, one of whom has been declared not credible by at least one published decision (see *In re Interest of Gavin S.*, 23 Neb.App. 401, 416, --N.W.2d-- (2015)), who state that the "new paradigm" is generally accepted in the *relevant* scientific community. As Narang, et al. noted in *A Daubert Analysis of Abusive Head Trauma/Shaken Baby Syndrome, supra*, at 574, "There is but one simple question for these assertions: Where is the evidence/data for these assertions (other than the opinions of known defense experts)?"

III. *New opinions not material*

This factor, unlike factor one, looks at whether, if the newly discovered evidence (the opinions) would have changed the outcome of the trial had they been presented to the jury at the original trial. Although this factor overlaps to a degree with the first factor, it is not identical. This factor requires the court to look at the evidence actually presented at trial (the actual testimony, exhibits, and arguments) and determine that the opinions offered would have resulted in an acquittal in spite of everything the jury heard and saw. This factor fails. As explained above, this case is not a classic “shaken baby case.” This case involved a brutal, full-body assault on Brynn. There were numerous other injuries in this case beyond the head trauma. The evidence overwhelmingly showed that Brynn suffered this multi-pronged assault at Fero’s apartment. Thus, the question the jury had to decide in this trial was whether Fero committed the assault on Brynn or whether someone else who was at the apartment (i.e., Kaed) committed it. The jury heard testimony from five doctors that it was extremely unlikely that Kaed, a four year-old, had either the strength or developmental ability to inflict these injuries. Contrary to this Court’s opinion at page 9, Ophoven’s declaration did not demonstrate a “paradigm shift” with respect to whether a four year-old, thirty pound child could have committed a sustained, violent assault against a fifteen month-old baby and caused these grave injuries. A careful read of paragraph 10 of Ophoven’s declaration reveals that it merely states “A child is

more than capable of causing such injuries, and examples of children injuring other children (whether accidental or not) exist in the literature.” Ophoven at 4. She doesn’t couch this opinion as being generally held by the relevant scientific community, nor does she state there has been a change, since 2003, in scientific consensus on this point. As support for this specious claim, she cites GT Lauder et al., *Perimacular Retinal Folds Simulating Nonaccidental Injury in an Infant*, 124 ARCH. OPHTHAMOLOGY 1782 (2006). This article, however, cites only one example of a child injuring another child. The child was a twelve year-old, 139 pound girl falling backward directly onto the head of a four month-old infant, “transmitting her entire weight through her buttocks directly to the infant’s head.” *Id.* Ophoven’s citation to this article is unbelievable. No credible scientist would have proffered this example. (It is worth noting that the article was about retinal injury, not severe vulva bruising or twisting, displaced long bone fractures. Also worth noting that the infant from the article lost consciousness immediately and did not have a “lucid interval.”) Ophoven’s statement in paragraph 10 is unworthy of serious consideration.

There has been no “paradigm shift” as to whether a thirty pound child could inflict the life-threatening injuries Brynn suffered, and paragraph 10 of Ophoven’s declaration does not “devastate” the opinions of five medical doctors, each of whom had extensive clinical experience and who actually

examined Brynn. The jury saw Kaed testify, they saw his size, they saw in-life pictures of Kaed and Brynn together before the assault (Appendix A), and they heard testimony about the relative size of the children at the time of the assault. Finally, they watched Kaed struggle to get through his testimony because he absolutely could not focus for any sustained period of time. At one point the judge stepped in and confiscated a car Kaed was playing with in an effort to get him to focus. 3/12/03 VRP, p. 36. Moreover, Fero's actions that night were totally inconsistent with a caregiver who believed that a four year-old in her charge had violent tendencies. Kaed was so volatile that she left him alone with her one year-old son while she gave Brynn a bath? So aggressive that she left him alone with Brynn while she bathed her son? The jury was within its prerogative to conclude, as it did, that Kaed did not commit this assault, and that Fero's attempt to blame Kaed was designed to cover up her actions that night. Because Fero's only viable trial strategy was to concede that the assault occurred at her apartment and blame it on Kaed, "paradigm shift" and "lucid interval" would have been irrelevant at this trial. Further, the opinions of the doctors on Kaed's extremely unlikely ability to inflict these injuries—opinions the jury believed—demonstrate the result of this trial would not have been different had these new, impeaching opinions been presented to this jury.

IV. Evidence not newly discovered

The holding of this Court is that new opinions applied to facts that existed and were known in full at trial constitutes “newly discovered evidence.” The State disagrees with this holding for the reasons set forth in its Brief of Respondent. Further, this Court holds that because Fero has no medical training and because she was “convicted in 2003 and incarcerated at the Washington Corrections Center for Women until her release on July 30, 2014,” she could not have discovered these “new” medical opinions with the exercise of due diligence.

This Court is incorrect about Fero’s status. She was not incarcerated in this case following her conviction. In fact, she was not incarcerated until February 24, 2006. Appendix C. She was also represented by counsel all the way until her mandate was issued February 2, 2002 (first Mr. Muenster, then Mr. John Hays). Why should her counsel not be held to the standard for reasonable diligence in discovering new evidence? The primary article relied upon by Barnes and Ophoven, the literature review by Donohoe, was nearly three years old by the time Fero’s mandate was issued and she ceased being represented by counsel. This Court’s reliance on Fero’s lack of medical training sets a precedent wherein any petitioner who lacks recognized expertise in the subject matter in dispute is effectively excused from the requirement of due diligence. Notably, Fero’s declaration does not state that she had no access to a law library in prison. Her declaration doesn’t state that

in the time prior to her incarceration in 2006, she had no access to the internet. But perhaps most notable is the lack of a declaration from Mark Muenster. Mark Muenster is a very experienced criminal defense attorney.⁴ This was not Mr. Muenster's first abusive head trauma trial.⁵ Mr. Muenster's distinguished record is relevant in this case because the heart of this case is truly an allegation of ineffective assistance of counsel, as noted above. This case is about second-guessing Mr. Muenster's carefully selected trial strategy. But because using the outcome of a trial to demonstrate ineffective assistance is not allowed, and because ineffective assistance of counsel is not an exception to the time-bar, this case has been repackaged as one of "newly discovered evidence." But Fero puts forth no declaration from Muenster stating he was unaware of the arguments available to attack shaken baby syndrome. This Court appears to shrug at the fact that the "new opinions" Fero now sets forth were placed front and center at the televised and highly publicized Woodward trial. Did Mr. Muenster not follow that trial? We don't know, because there is no declaration from him. What we do now, as outlined above, is that Muenster was forced to confront the fact that Brynn was assaulted while in Fero's care.

⁴ Mr. Muenster has experience in capital litigation, and his notable appellate cases include the watershed *State v. Gunwall*, 106 Wn.2d 54, 720 P.2d 808 (1986), *State v. Belgarde*, 110 Wn.2d 504, 755 P.2d 174 (1988) (seminal prosecutorial misconduct case), *State v. Guloy*, 104 Wn.2d 412, 705 P.2d 1182 (1985) (establishing the overwhelming untainted evidence test as the test for constitutional harmless error), *State v. Brett*, 126 Wn.2d 136, 892 P.2d 29 (1995) (Capital case. Brett's conviction was ultimately overturned by the Ninth Circuit).

⁵ Mr. Muenster represented Somchit Phommahasay in an abusive head trauma case alleging murder in the second degree in 2000. There is no appellate record of this case because Mr. Muenster won an acquittal for his client.

Brynn's numerous injuries were not accidental, and they were not three days old.

This Court should reconsider its decision for the reasons set forth above.

C. CONCLUSION

The State respectfully asks this Court to reconsider its decision in this case and deny the petition. Alternatively, the State asks this Court to remand the matter for a reference hearing, where the credibility of the new opinions can be tested by cross examination.

DATED this 25th day of January 2016.

Respectfully submitted:

ANTHONY F. GOLIK
Prosecuting Attorney
Clark County, Washington

By: 
Anne M. Cruser, WSBA #27944
Senior Deputy Prosecuting Attorney
OID No. 91127

I declare under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

Pamela Brad L

Date: Jan 25, 2016.

Place: Vancouver, Washington.

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7 IN THE COURT OF APPEALS OF THE STATE OF WASHINGTON
8 DIVISION II

9 STATE OF WASHINGTON,
10 Respondent,
11 v.
12 HEIDI FERRO,
13 Petitioner.

No. 46310-5-II
Clark County No. 13-1-01673-7
MOTION FOR PROTECTION OF
PHOTOGRAPHS ATTACHED AS
"EXHIBIT A" IN RESPONDENT'S
MOTION FOR RECONSIDERATION

14
15 **I. IDENTITY OF MOVING PARTY**

16 The State of Washington, Plaintiff in the trial court and Respondent on appeal, by and
17 through its attorney, Anne M. Crusier, Senior Deputy Prosecuting Attorney for Clark County,
18 brings this Motion as set forth below:

19 **II. STATEMENT OF RELIEF SOUGHT**

20 Respondent seeks protection of the photographs attached as "Exhibit A" in Respondent's
21 Motion for Reconsideration filed January 25, 2016.

22 **III. FACTS RELEVANT TO MOTION**

23 Appendix A of the State's Motion for Reconsideration contains graphic photographs of
24 injuries to the infant victim of this case. RCW 7.69A.030 protects the rights of child victims and
25 witnesses, and states that every reasonable effort should be made by law enforcement agencies,
26
27

1 prosecutors, and judges to assure that child victims and witnesses are afforded the rights
2 enumerated under this chapter. RCW 7.69A.030(4) specifically prohibits the release of
3 photographs of living child victims to the public. Therefore, the photographs should be protected
4 from dissemination to the public.

5
6 **IV. GROUNDS FOR RELIEF AND ARGUMENT**

7 Respondent, State of Washington, respectfully submits the facts relevant to this Motion
8 as set forth above as the basis for its grounds for relief and argument.

9 DATED this 25th day of January 2016.

10
11 Respectfully Submitted,

12 ANTHONY F. GOLIK
13 Prosecuting Attorney
14 Clark County, Washington

15 By:


16 Anne M. Cruser, WSBA #27944
17 Senior Deputy Prosecuting Attorney
18 Office ID No. 91127
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APPENDIX A

APPENDIX B

EXHIBIT 1



UNDERSTANDING ABUSIVE HEAD TRAUMA IN INFANTS AND CHILDREN

Answers from America's Pediatricians

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™



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ABOUT US

AMERICA'S PEDIATRICIANS

The American Academy of Pediatrics (AAP) is a professional membership organization of 64,000 primary care pediatricians, pediatric medical subspecialists, and pediatric surgical specialists dedicated to the health, safety, and well-being of infants, children, adolescents, and young adults.

POLICY AND CLINICAL GUIDANCE

AAP recommendations form the basis of pediatric preventive health care. The AAP issues policy statements, clinical reports, technical reports, and practice guidelines on a broad range of topics.

ADVOCACY

Advocating for all infants, children, adolescents, and young adults, the AAP works with government, community, and other stakeholders to promote child health and safety.

PUBLIC EDUCATION

The AAP produces numerous patient education resources and books, as well HealthyChildren.org, which offers health advice for parents and caregivers. The AAP works extensively with the media and carries out public information campaigns to ensure that timely, accurate messages and information reach families and professionals engaged in the care and well-being of children.

PROFESSIONAL EDUCATION

Ongoing education of pediatricians is a cornerstone of promoting optimal care for children. Continuing medical education (CME) is a major activity of the AAP. Member pediatricians participate in a variety of educational formats, including live, print, and online lifelong learning activities.

AUTHORS

Based on AAP policy and the most up-to-date research on this issue, this resource was developed by:

- Cindy W. Christian, MD, FAAP
Immediate Past Chair, AAP Committee on Child Abuse and Neglect
Endowed Chair in Prevention of Child Abuse and Neglect, The Children's Hospital of Philadelphia
- AAP Committee on Child Abuse and Neglect
- AAP Section on Child Abuse and Neglect

WHAT IS ABUSIVE HEAD TRAUMA (AHT)?

- Abusive head trauma (AHT) is a well-recognized constellation of brain injuries caused by the directed application of force to an infant or young child, resulting in physical injury to the head and/or its contents.¹ Approximately 20/100,000 children sustain AHT annually.^{2,3}
- Physicians from distinct fields including pediatrics, neurology, neurosurgery, ophthalmology, critical care medicine, radiology, neuroradiology, and psychiatry have contributed to the scientific data that support AHT as a firmly established medical diagnosis.^{4,5,6,7,8,9,10,11} The clinical diagnosis of AHT has been confirmed by pathologists, forensic pathologists, and neuropathologists through autopsies and postmortem research.^{12,13,14,15,16}
- Extensive peer-reviewed medical literature regarding AHT over the past 50 years¹⁷ and clinical experience and reasoning by thousands of physicians leave no doubt that infants and young children sustain head and brain injury—sometimes severe, sometimes fatal—by caregivers.
- In 2009, the AAP published a policy statement, “Abusive Head Trauma in Infants and Children,” that briefly reviewed the mechanisms and pathophysiology related to AHT and called for physicians “to use the term abusive head trauma rather than a term that implies a single injury mechanism, such as shaken baby syndrome (SBS), in their diagnosis and medical communications.”¹⁸ The goal of the statement was “not to distract from shaking as a mechanism of AHT but to broaden the terminology to account for the multitude of primary and secondary injuries that result from AHT, some of which contribute to the often permanent and significant brain damage sustained by abused infants and children.” This policy statement has been mischaracterized in subsequent legal and medical literature and in court testimony to suggest that the AAP no longer recognizes shaken baby syndrome as a legitimate diagnosis.^{19,20} On the contrary, the AAP reinforces the fact that shaking is an important contributor to abusive head injuries and that shaken baby syndrome is a subset of AHT. Additionally, since the release of this statement, peer-reviewed medical literature—including case reports in which adults have admitted shaking an infant or child—has been published and further underscores the significance of shaking as an important contributing mechanism of injury.⁵

WHAT IS ABUSIVE HEAD TRAUMA (AHT)?

- There is no legitimate medical debate among the majority of practicing physicians as to the existence or validity of AHT/SBS. The only real debate and controversy appear to be in the legal system and the media. Claims that shaking is not dangerous to infants or children are not factual and are not supported by AAP policy, despite being proffered by a few expert witnesses in the courtroom. Alternative hypotheses have been offered by a few physicians and others, but the evidence for these hypotheses is lacking. Several experts who have published and testified regarding alternative theories of AHT causation have conceded in recent medical publications that infants can be damaged or killed by violent shaking or abuse.^{21,22}
- It is unequivocally clear that inflicted head injury is a relatively common and clearly defined entity and that a differential diagnosis, including medical diseases that can mimic AHT/SBS, can be evaluated by physicians objectively.

IDENTIFICATION OF AHT-RELATED INJURIES

- AHT in children is diagnosed through a thorough history, physical examination, laboratory tests, and imaging studies. Experienced pediatricians have been trained in making these diagnoses; often they consult with specially trained, board certified child abuse pediatricians.
- Infants who have sustained AHT typically present for medical care with symptoms of their injury, with or without a history of preceding trauma. Physicians rely on information provided by parents and caregivers in their diagnostic process, and in cases of child abuse, the history is often incomplete or incorrect. In all cases, the history provided is critically important, because it is the first step in a thorough diagnostic evaluation. The identification of injury, either by physical examination or radiography, often alerts the physician to the possibility of injury to the child.
- Subdural hematomas (SDHs), with concomitant brain injury, and retinal hemorrhages (RHs), with or without additional injury, including spinal,²³ skin, and skeletal injuries,^{24,25} are the hallmarks of child abuse and AHT, although individually these findings are not specific for the diagnosis.
- Children sustaining AHT may be injured in a number of ways, including shaking, blunt impact, suffocation, strangulation, and others. Children with minor injury may never receive medical care; some are harmed repeatedly before they receive medical attention⁵; others present for medical care with mild or nonspecific symptoms but are misdiagnosed by unsuspecting physicians, only to return with more severe or fatal injury.^{10,26}

SUBDURAL HEMATOMA (SDH)

- Subdural hematoma is the medical term for bleeding inside the skull but outside the brain. SDH, most commonly attributable to trauma in infants, children, and adults, is found in the majority of victims of AHT,^{2,13,27} and the majority of neurologically symptomatic SDHs identified in infants and toddlers are the result of child abuse.²⁸ The extent, location, and size of SDHs are variable, and SDHs can result from accidental or abusive trauma and secondary to medical disease.²⁹ A thorough medical evaluation typically includes the consideration of known mechanisms.

IDENTIFICATION OF AHT-RELATED INJURIES

- Although SDHs are not exclusive to abusive trauma, a number of prospective studies have demonstrated a significant and strong association of SDH with abuse compared with accidental injury,^{30,31} and additional support is found in a number of retrospective clinical and radiologic peer-reviewed studies.^{32,33,34} Multiple studies examining SDH and abuse found in the pediatric, pathologic, and radiologic literature have produced similar results showing a robust statistical association of SDH with child abuse, and there is no published, peer-reviewed clinical study that concludes differently.¹⁷

RETINAL HEMORRHAGES (RH)

- Bleeding in the back of the eye, known as retinal hemorrhages, are often found in infants with AHT. RHs can result from medical disease or trauma, including accidental or birth trauma, and AHT.³⁵ RHs can vary in size, number, and location within the retina itself. The physical mechanism(s) leading to the development of RH are likely multifactorial, with traction forces on the retina coupled with other factors, contributing to the severe RH often seen in victims of AHT.^{36,37}
- Although mild and moderate RHs are seen in a number of medical and traumatic conditions in children,³⁸ clinical and pathological studies have shown strong associations of severe RH with AHT.^{8,39} In recent years, 2 systematic reviews of the literature, comprising more than 30 clinical studies and thousands of children, confirm the strong association of severe RH with AHT.^{6,40} Additionally, studies examining the contributions of cardiopulmonary resuscitation,^{41,42} seizures,^{43,44,45} Valsalva pressure from coughing or vomiting,^{46,47} and increased intracranial pressure attributable to medical disease⁴⁸ in children have failed to identify any association with severe RH.
- When severe RH is identified in a child, the cause is almost always severe head trauma leading to neurologic compromise and brain injury. Like SDH, robust literature supports the association of severe RH and AHT, and although there are medical diseases that can rarely lead to extensive RH,³⁸ there is no published literature that refutes the association of severe RH and AHT.

IDENTIFICATION OF AHT-RELATED INJURIES

HYPoxic ISCHEMIC ENCEPHALOPATHY (HIE)

- Hypoxic ischemic encephalopathy, injury to the brain caused by lack of oxygen and blood flow to the brain, is a common feature of AHT and is largely responsible for the poor outcomes of victims.⁴⁹ The pathophysiology for HIE in victims of AHT is multifactorial and includes traumatic axonal injury to the brainstem and spinal cord, apnea (inadequate breathing) attributable to injury, seizures, alterations in blood flow to the brain after trauma, unmet metabolic demands of the injured brain, secondary cerebral edema (brain swelling), and others.⁵⁰ Potential causes of HIE in infants and children include birth asphyxia, accidental or intentional trauma or suffocation, infection, metabolic disease, congenital anomalies, drowning, and choking.
- Over the past decade, a few researchers have postulated that SDH in victims of AHT results from hypoxia, brain swelling, and raised intracranial venous pressure leading to vascular leakage from immature dural vessels,^{51,52,53,54} although clear evidence to support this hypothesis is lacking. Other investigators who have tested this hypothesis have not found SDH in children with HIE from known causes,^{55,56,57,58} including neonates who have sustained perinatal asphyxia.^{59,60,61}

AHT AND THE TRIAD

- Arguments against the validity of AHT/SBS have recently focused on the specificity of a “triad” of subdural hematoma, retinal hemorrhage, and encephalopathy that is claimed to be diagnostic of AHT. This controversy regarding a triad is a “straw man” created for legal arguments against the diagnosis of AHT/SBS. The diagnosis of AHT is made following detailed medical examinations and testing and is not made automatically on the basis of the presence of these 3 findings, nor can it be excluded if 1 or more of these elements is missing.
- In all cases, a diagnosis of child abuse requires careful consideration of all clinical facts, including the medical history, physical examination findings, and laboratory and radiologic testing. For some children, the identification of additional injury confirms the diagnosis of injury and child abuse. In others, known medical diseases are identified and abuse is eliminated from consideration. In some cases, additional investigation by law enforcement or child protective services uncovers information that supports or refutes accidental or abusive injury. In many cases, adult caregivers confess that they injured the infant themselves; these cases do not garner media attention.
- Children who are victims of AHT require protection. Adults who injure children sometimes require prosecution, and courts are then faced with the challenge of weighing medical testimony to find justice. In this, like other scientific arenas, the courts must be careful to distinguish between scientifically supported evidence and evidence based on untested hypotheses.
- In medicine, astute clinical observation and careful research advance our modern understanding of the human body. This is true in every field of medicine, including child abuse pediatrics. Studies to improve the understanding of causation, pathophysiology, and treatment of AHT are ongoing, and clinically tested hypotheses continue to lead to improvements in treatment and prevention. The medical research regarding AHT is extensive and comprises more than 1000 peer-reviewed clinical medical articles written by over 1000 medical authors from more than 25 different countries.¹⁷
- Alternative medical diseases requiring consideration have been identified, are known to practitioners, and are diagnosed by history, physical examination, and adjunct testing. On the other hand, the new hypotheses presented to refute the diagnosis of AHT are, to date, largely untested and unconfirmed. Some are presented only in the courtroom as alternative diagnoses, not in clinical practice in children’s hospitals throughout the country. Although there is always “new science,” the accumulating evidence underscores, rather than refutes, the reality of AHT.

AHT AND THE TRIAD

- The validity of AHT in all of its various forms has been established. The diagnosis is recognized by the following organizations:
 - The American Academy of Pediatrics
 - The American Academy of Family Physicians
 - The American Academy of Ophthalmology
 - The American Association for Pediatric Ophthalmology and Strabismus
 - The American Association of Neurologic Surgeons
 - The American College of Radiology
 - The American College of Surgeons
 - The Canadian Paediatric Society
 - The Centers for Disease Control and Prevention
 - The Royal College of Ophthalmologists
 - The Royal College of Paediatrics and Child Health
 - The Royal College of Radiologists
 - The World Health Organization

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EXHIBIT 2



Abusive Head Trauma: A Review of the Evidence Base

Christopher Spencer Greeley¹

OBJECTIVE. The purpose of this article is to review the constellation of findings of abusive head trauma, which may be accompanied by injuries to the appendicular and axial skeleton, brain and spinal cord, and retina. Additional common features include skin and soft-tissue injury, visceral findings, and evidence of oral trauma.

CONCLUSION. The evidence base for abusive head trauma encompasses diverse disciplines, including diagnostic imaging, pathology, pediatrics, biomechanics, ophthalmology, epidemiology, and orthopedics. When the varied sources of evidence are pieced together and taken in toto, abusive head trauma is often readily differentiated from alternative explanations of an infant's injuries.

Abusive head trauma (AHT), according to the U.S. Centers for Disease Control and Prevention [1], is an injury to the skull or intracranial contents of an infant or child younger than 5 years caused by inflicted blunt impact, violent shaking, or both. The constellation of findings may include injuries to the appendicular and axial skeleton, brain and spinal cord, and retina. Additional common features include skin and soft-tissue injury, visceral findings, and evidence of oral trauma.

infants had eye findings. In 1946 skeletal injuries associated with chronic subdural collections were described by the pediatric radiologist John Caffey [5]. Caffey reported the association between long bone fractures in children and chronic SDH. Although he recognized that trauma was likely the underlying cause of both, he indicated that "the traumatic episodes and the causal mechanism remain obscure" [5]. In 1953 the British neurosurgeon Norman Guthkelch [6] reported on 18 infants with SDH, 11 of whom were younger than 3 months. Guthkelch reported that 10–15% of the infants had RH and attributed the SDH to birth injuries in 8 of the 16. In 1971 Guthkelch [7] described a series of 23 children with SDH, 22 of whom were younger than 18 months. The causes of SDH in these children were "proved or strongly suspected parental assault." In 1962, Kempe and colleagues [8] set the findings of long bone fractures and SDH into a larger framework: battered child syndrome. They reported that the "findings are quite variable" and could include fractures, SDH, soft-tissue injury, poor hygiene, and malnutrition [8]. In 1974, 28 years after initially describing fractures associated with SDH, Caffey [9] attributed these findings to shaking.

The terminology for the constellation of findings associated with AHT has evolved as understanding of the findings, circumstances, and biomechanics has improved. Even though the findings described by Tardieu

History

The recognition of injuries to infants that result from inflicted trauma can be traced to the middle of the 19th century. Auguste Ambroise Tardieu, a French pathologist, characterized injuries to infants and children in Paris that he attributed to trauma at the hands of caretakers. In 1860, Tardieu described injuries to 32 children as resulting from "acts of cruelty and ill treatment"; 24 (75%) of the injuries were at the hands of parents [2]. Burhans and Gerstenberger [3] in 1923 reported on five infants with subdural hematoma (SDH) in four of whom trauma was identified and in four of whom retinal hemorrhage (RH) was identified. Those authors reported that "trauma has been a more constant feature in the history of our cases, although it has not been present in all." Peet and Kahn [4] in 1932 reported on nine infants with SDH, which they indicated was undoubtedly from trauma; eight of the

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in the 1880s were similar to those currently seen in AHT, it was Kempe et al. [8] who first coined the term battered child syndrome in 1962. Caffey [9] introduced the terms parent-infant traumatic stress syndrome in 1972 and whiplash shaken infant syndrome in 1974. Since introduced by Caffey in 1972, the term shaken baby syndrome has been frequently used in the medical literature and the general press. In 2009, the American Academy of Pediatrics [10] endorsed a shift in terminology away from the mechanism (shaking) and toward the clinical findings (head trauma). The academy position was that although shaking (rotational injury) can clearly injure an infant, the term abusive head trauma encompasses a broader array of traumatic mechanisms. These include slamming, striking with an object, throwing, and crush forces. The change in nomenclature removes the focus from shaking as a mechanism and places it on the commonality that the head is involved and that the actions causing the trauma are abusive in nature (often referred to as nonaccidental or inflicted).

Epidemiology

The systematic challenges to estimating the precise incidence of AHT include heterogeneity of clinical findings, age-related differences in symptoms and incidence, and different surveillance systems. In addition, many abused infants may not be seen by medical providers [11], and if the infant is seen, the AHT may not be recognized [12]. Despite these challenges, the population incidence estimates are strikingly similar across populations on different continents. Broadly, the incidence of AHT is between 14–40 cases per 100,000 children younger than 1 year [13–18]. The most recent national estimate for the incidence of AHT, for the period 2000–2009, is 39.8 per 100,000 children younger than 1 year [14]. This makes AHT more common than neonatal meningitis. Two high-quality prospective studies in two unrelated large populations showed similar incidence rates. Barlow and Minns [15] conducted weekly contacts with all hospital pediatric departments, pediatric ICUs, and neurosurgical units for all of Scotland for 2 years. They identified 19 cases of AHT, for an annual incidence of 24.6 per 100,000 children younger than 1 year. Keenan and colleagues [16], using a similar surveillance technique for all of North Carolina, reported a rate of 29.7 per 100,000 children younger than 1 year. These rates are remarkably similar to the rate of SDH reported by Jayawant and colleagues

[17] in South Wales and southwest England. Those authors retrospectively reviewed inpatient records for 2 years in their region and identified 43 children with SDH—an annual incidence of 21 per 100,000 children younger than 1 year. Talvik and colleagues [13] prospectively evaluated all children admitted to the tertiary care hospitals in Estonia for suspected AHT over a 4-year period and reported an incidence of 40.5 per 100,000 children younger than 1 year. The consistency of the estimates at different times, obtained with different surveillance strategies, and across different populations provides face validity to presence of AHT.

Much of the surveillance of AHT is through hospital discharge (i.e., inpatient) datasets. A report in South Carolina that included both inpatient and emergency department statewide data showed an incidence of 28.9 per 100,000 children younger than 1 year, or one case of AHT for every 3450 infants [19]. The authors noted that 42% of the cases were identified in the emergency department, not among inpatients. Older children with AHT are less likely to be admitted to the hospital for their injuries. Among children with the diagnosis of AHT, 55% of the inpatients were younger than 1 year, whereas only 9% of the emergency department patients were younger than 1 year. This report supports the notion that most of the estimates of AHT (made with inpatient data) are underestimations of the true disease incidence.

There is a slight, but consistent, male predominance among reported victims of AHT [6, 16, 18–21]. The first year of life is the most frequent age for AHT [22], infants younger than 6 months being at particular risk [23]. Although it is common in the first 3–4 months of life, infant crying is regularly reported as an antecedent event of shaking injury [7, 9, 11, 24–27]. Barr and colleagues [28] reported that the age-specific incidence of AHT in California mapped closely the crying curve in infancy. Maternal characteristics associated with increased risk of perpetrating AHT include age younger than 21 years and being unmarried [16]. Children living in households with unrelated adults, compared with a home with two biologic parents, are at 50-fold increased risk of dying of inflicted injuries [29]. Maternal undereducation (< 12 years), maternal age younger than 15 years, and lack of prenatal care have been identified as risk factors for infant homicide, battering being the most common cause [21]. A survey of parents in The Netherlands showed that 5.6% of parents indicated that they smothered, slapped, or shook their infants because of their crying [11]. A survey in North and South Carolina showed that 2.6% of parents reported shaking their children younger than 2 years as a method of discipline [30]. Perpetrators of AHT are more than twice as often men. Fathers are the most common perpetrators of AHT overall [24, 25, 27, 31], followed by mothers' boyfriends and female babysitters [24, 25].

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Clinical History

Child victims of AHT often present with findings related to the brain injury. Depending on the circumstances of the injury and the developmental age of the child, those symptoms may be obvious and pronounced or subtle and nonspecific. Infants and younger children may have nonspecific symptoms, such as vomiting, that are misinterpreted, or even missed, by caretakers [12]. The history presented to clinicians evaluating and caring for the child may often be incomplete or even incorrect [12, 25, 26, 32, 33]. Hettler and Greenes [32] found that among children younger than 3 years with intracranial injury, a history that changed was found only in cases of AHT [32]. In children with intracranial injury, the absence of a history of trauma has been repeatedly found to be associated with AHT [22, 23, 32–35]. In addition to the absence of a history of trauma, the history of a short fall (< 3 feet [0.9 m]) resulting in clinically significant intracranial injury has been repeatedly found to be associated with AHT [22, 32]. Infants with AHT present with lower Glasgow Coma Scale scores and higher injury scores than infant victims of accidental injury [20].

Clinical Findings

The findings Tardieu described more than 150 years ago were strikingly similar to injuries seen today: long bone fractures, rib fractures, and brain injuries. The primary findings involve cranial injury (CNS and skull) but can involve the skin (bruising and soft-tissue swelling), skeleton (particularly rib and metaphyseal fractures), eyes (retinal and optic nerve hemorrhage), and neck (cervical spinal and ligamentous injury). Most of the presenting symptoms are associated with CNS injury. Vomiting [18, 25, 36], altered mental status [18, 25, 37, 38], seizure [18, 25, 32, 36–39], and apnea [18, 25, 32, 39] are among the most common. Although debated, the symptoms of AHT are most often reported as immediate (seconds to minutes as opposed to minutes to hours after injury) [24, 25].

Abusive Head Trauma

Head

The cardinal intracranial finding associated with AHT is SDH [23, 39–41], which is well described as a consequence of trauma. In infants the presence of SDH is strongly associated with AHT [41]. In 1860 Tardieu described “blood on the surface of the brain” child fatalities resulting from abuse [2]. Described for centuries, one of the most common causes of SDH in the pediatric population is birth [18, 42]. If all vaginally born infants were imaged within the first few days of life, approximately one fourth would be found to have a small SDH [43, 44]. These hematomas are universally small and asymptomatic. The best estimate is that birth-related SDH resolves by 4–6 weeks of age. There have been no reported cases of birth-related SDH progressing to chronic SDH or rebleeding. After 4–6 weeks of life, birth can safely be excluded as a cause of SDH. Outside of birth-related SDH, SDH in children is most commonly due to trauma [33, 42]. The presence of an SDH in an infant with an inadequate history has repeatedly had a high association with AHT [22, 34, 39, 40, 41]. The neuroimaging features more commonly associated with accidental head injury include epidural hematoma, intraparenchymal injury, and skull fractures [20, 35, 37, 40, 41].

External

Bruising of victims of AHT is the most common external finding. Although there may be many different patterns and locations of bruising, the most important consideration is the age of the child. Bruising of nonmobile infants is most concerning for AHT [45, 46]. Bruising of the head and neck may also be of particular concern [40, 46]. In general, bruising of otherwise healthy infants is rare [47, 48], and bruising even in fatal AHT is uncommon [7, 49]. In a retrospective review of AHT fatalities, Atwal and colleagues [50] reported 21% had no bruising and 29% had no fresh bruises. Ingham and colleagues [49] reported only 16% of infants who died of AHT had one or more bruises. The absence of bruising on children with fractures is common and well described [51]. In a report by Mathew and colleagues [51], 72% of children with fractures did not have bruises associated with the fractures within 1 week of injury. The authors concluded that absence of bruising cannot be taken to imply either underlying bone disease or an increased possibility of non-accidental injury.

Skeletal

Skeletal injury, particularly rib fractures and long bone fractures, has repeatedly been

found to be associated with AHT in infants [22, 39, 40, 52]. Rib fractures are thought to occur as a result of squeezing around the infant's chest during shaking or slamming and have been described repeatedly as being highly associated with physical abuse, AHT in particular. Although early reports dismissed cardiopulmonary resuscitation (CPR) as a cause of rib fractures, some preliminary data support the hypothesis that the acute anterior rib fractures (CPR-associated rib fractures) described in adults [53] may also occur in infants [54]. There are limited data on whether posterior rib fractures occur as a result of two-thumb CPR [55]. Clearly, the presence of a healing rib fracture (callus formation) would preclude recent chest compressions.

The two most commonly identified long bone fractures in AHT are of the humerus and femur. Diaphyseal fractures of either bone are strongly associated with inflicted trauma (physical abuse) in infancy [52, 56]. With increasing age beyond 1 year (increasing ambulation), accidental mechanisms become more common [57–59].

Eyes

RH is an important component of the constellation of findings associated with AHT [39, 60]. Although not diagnostic in isolation, the presence of RH, along with particular qualitative features of RH, have been strongly associated with AHT [39, 40, 60]. Like SDH, RH has been regularly described as occurring during the birth process and resolves typically within the first month of life [61, 62]. RH has been described in children with other causes of trauma [23], particularly motor vehicle crashes [35, 63] and crush injuries [64, 65], and critical illness [66], but RH from accidental causes typically occurs in a pattern clearly distinct from those associated with AHT [38, 60, 67]. Hemorrhages that extend to the outer margins of the retina (ora serrata retinae), that are extensive (too numerous to count), and that involve multiple layers although not pathognomonic are a particularly precise pattern associated with AHT [34, 36, 38, 60, 68]. It is uncommon, but has been described, for RH to be present in victims of AHT without radiographic signs of intracranial injury at neuroimaging [69]. In addition to RH, retinoschisis (a particular folding of the retina) is also strongly associated with AHT [68, 70] and has been described in crush injuries to the head [64, 65].

Neck

The cervical spine plays a crucial role in the biomechanics of AHT. Compared with

older children and adults, infants have disproportionately large heads supported on a weak neck. Hadley and colleagues [71] described a whiplash shake syndrome in 13 infants. They reported that five of the six infant autopsies showed evidence of cervicomedullary junction injury. A separate review of 14 autopsies of infant victims of AHT [72] revealed traumatic axonal damage in the cervical spine in 7 of 11 infants. Brennan and colleagues [73] later found that 71% of infant victims of AHT had primary cervical cord injury. Early imaging studies did not show significant cervical cord findings, but more recent MRI studies clearly show cervical spinal injury (cord or ligament) [74].

Combination of Findings

Although each of the clinical findings has a meaningful association with AHT, it is in combination that dramatic correlations emerge. For example, whereas SDH may have a narrow differential diagnosis by itself, when placed in the context of the clinical history (or lack thereof) and the neurologic, retinal, and skeletal findings, that differential diagnosis evaporates. Maguire and colleagues [39] illustrated this concept most clearly. In a systematic review of the literature, they used patient-level data and found that the probability of AHT in a hypothetical 3-year-old child with an intracranial injury can narrow quite quickly as the findings are combined. The authors collected from the primary authors of six previous publications [18, 22, 32, 36, 38, 75] patient data on children ($n = 1053$) younger than 3 years with an intracranial injury. Intracranial injury included any combination of subdural hemorrhage, subarachnoid hemorrhage, extradural hemorrhage, intraparenchymal injury, cerebral contusion, diffuse axonal injury, hypoxic ischemic injury, or associated cerebral edema [39]. Using a conservative case definition, the authors evaluated the predictive probability of six clinical findings, both alone and in various combinations. The six clinical variables were any RH, any long bone fracture, any rib fracture, any seizures, any apnea, and any head or neck bruising (Fig. 1). If a 3-year-old child with intracranial injury were to have bruising to the head and neck and a seizure, the probability of AHT would change from the baseline 3% to approximately 46%. If a long bone fracture was also identified, the probability would increase to 92%. If all six of the clinical findings were present, a 3-year-old child with an intracranial injury with head or neck bruising, apnea, seizures, long bone fracture, rib fracture,

and RH would have a (reported) 100% probability of having sustained AHT.

In a report on child victims of AHT by Vinchon and colleagues [37], the combination of SDH, severe RH, and the absence of findings of head impact had a sensitivity of 0.24 but a specificity of 1.0. This indicates that the pres-

ence of the findings associated with AHT, if present, is quite specific but that their absence is not a good indicator of the absence of abuse.

Secondary Injury

Two phases of injury account for the symptoms and outcomes of AHT. The primary

neuronal injury (traumatic axonal injury) results in immediate physical injury to axons [76]. It also results in secondary axotomy, in which injured axons undergo a delayed process that results in neuronal death [77]. Cerebral edema, hypoperfusion, ischemia, oxidative stress, and hypoxia all may contribute to delayed neuronal injury and death. In addition, the presence of SDH is associated with a clinically significant inflammatory response [78]. Cervical spinal injury, which can result in hypoventilation or apnea, may contribute to a worse neurologic outcome by exacerbating the secondary cellular injury.

Outcomes

AHT is the most common cause of traumatic death in infancy [36]. The mortality rate for AHT is greater than that for accidental head injury [23, 79]. It is estimated that 8–25% of infant victims die as a result of their injuries [24, 32, 80]. The survivors have considerable associated morbidity as a result of the injury [17, 32, 36, 81, 82]. In a large retrospective study in Canada [80], only 7% of survivors were identified as having normal neurologic function. Most of those injured had a moderate or greater degree of neurologic disability (60%); 65% had visual impairment; and 12% were in a permanent vegetative state. A prospective study in Switzerland [82] showed that 64% of victims of AHT were disabled and that 36% had a good outcome after 13 months. Barlow and colleagues [83] reported a similar distribution of outcomes in 2005. Using a cross-sectional study design, the authors found that 68% of survivors of AHT had neurologic abnormalities, 36% had severe neurologic difficulties, 16% had moderate difficulties, and 16% had mild difficulties.

Biomechanics

The dangers of shaking an infant are, for many, self-apparent. The growing body of literature in which perpetrators of AHT are asked about the circumstances of the injuries to the child underscores this concept. The literature clearly shows that often in response to frustration, the perpetrator shakes or both shakes and slams the child [25–27, 82]. Because of the clear ethical prohibitions to shaking human infants, much of the biomechanical evidence on the dangers of shaking has been the result of animal research. Although species differences limit broad generalization, a meaningful amount of overlap between humans and other animal species makes animal modeling valuable.

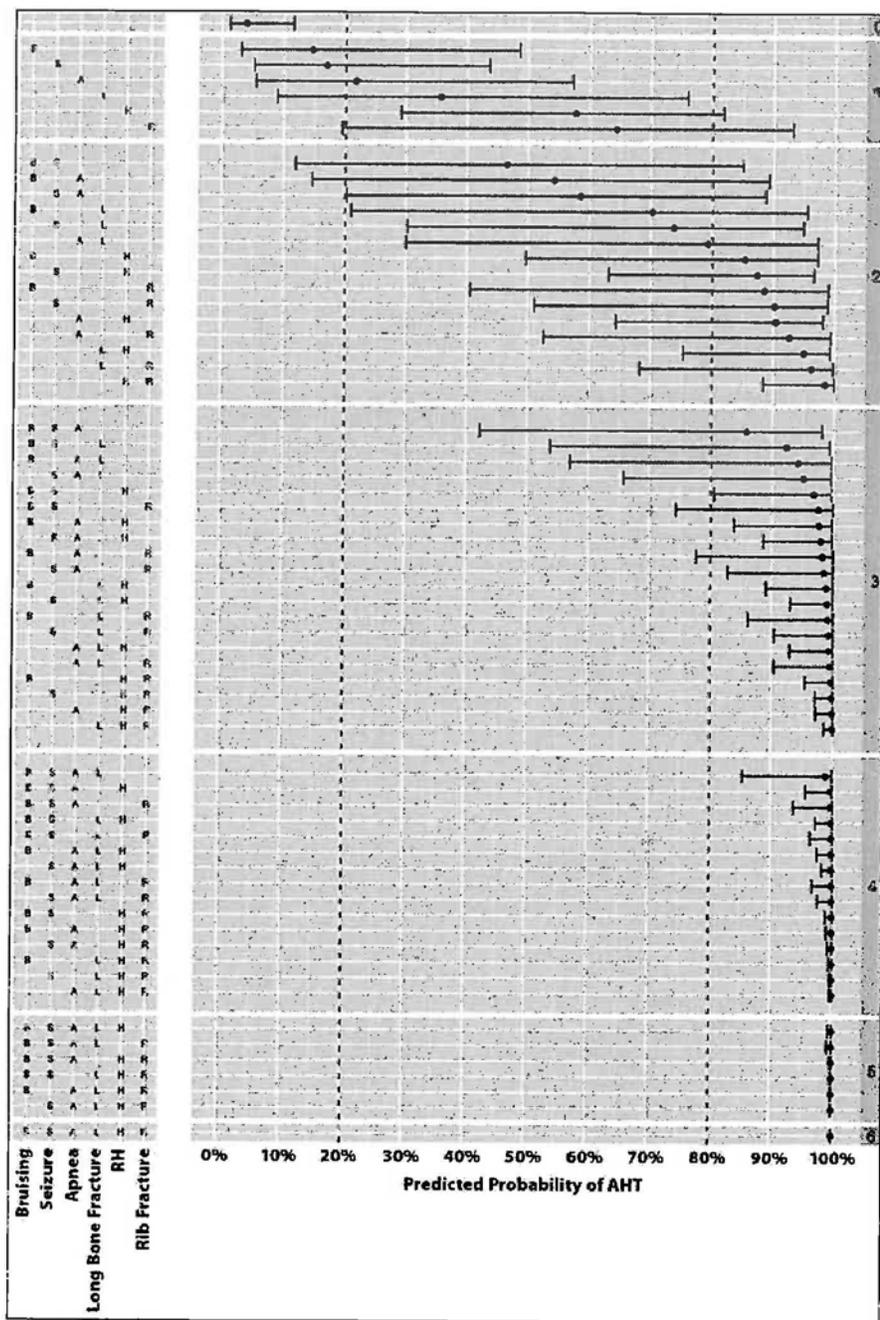


Fig. 1—Graph shows probability that 3-year-old child with intracranial injury has abusive head trauma on basis of additional findings. Numbers at right are numbers of findings. (RH = retinal hemorrhage, AHT = abusive head trauma.) Dashed lines represent hypothetical thresholds for diagnosis or exclusion. (Reprinted with permission from [39])

Abusive Head Trauma

Some of the earliest work to inform the dangers of shaking was primate studies conducted by Ommaya and colleagues [84, 85]. In 1968 they placed sedated rhesus monkeys into a fiberglass chair apparatus (akin to a rocket sled) and delivered an impulse to the chair that resulted in a single whiplash force [85]. Of the 19 monkeys with concussions, 15 had macroscopic SDH. None of the monkeys without concussions ($n = 22$) had macroscopic SDH. Bonnier and colleagues [86] used a mouse model of shaking without impact and hemorrhagic and traumatic brain lesions and found a 27% fatality rate. The surviving mouse pups had multifocal cystic white matter injury and RH. Finnie and colleagues [87] and Anderson and colleagues [88] used an ovine (lamb) model of shaking alone and found that the shaking caused CNS cellular damage, apnea, and death.

Biofidelic and computer models have been used to study the forces involved in shaking an infant. Although the models are promising, there are a number of challenges to both biofidelic (physical) and computer modeling of AHT. Some of the current issues with the use of model data are that data on the effect of scaling of forces are lacking, infant injury thresholds are unknown, and the materials and structures used in physical models do not completely duplicate infant dynamics [89].

A growing body of literature describes adults admitting to injuring their infants by shaking both with and without head impact [24, 25, 27, 31, 37]. Of particular interest is the report by Adamsbaum and colleagues [27]. This report describes caregiver admissions in France, where plea bargains are not a component of the legal process and thus there is no criminal benefit to admitting to injuring a child. Caregivers who admitted to shaking their infants reported crying as the most important trigger of lashing out at the child, that the shakes were violent, and that most of the shaking injuries did not involve head impact. More than one half of the caregivers reported repeated episodes of shaking. Of the children injured by confessed shaking, 79% had RH, 38% had skeletal injuries, 34% had bruising, and 31% died. Vinchon and colleagues [37] reported on a subsequent cohort of child victims of admitted shaking in France. Their findings were strikingly similar to those of Adamsbaum and colleagues: 85% of victims had RH, 78% had no head impact, and 22% died.

Prevention

Despite many advances in the prevention of child maltreatment in general, there have

been limited advances in the prevention of AHT in particular. The most common approach to preventing AHT involves targeting parents immediately after birth. Many of the strategies focus on counseling parents about infant crying and the dangers of shaking a baby. Some of the earliest work in preventing AHT specifically was performed in upstate New York by Dias and colleagues [90]. Using a nonrandomized hospital-based parent education strategy, those authors reported a 47% decrease in the incidence of AHT compared with the rate among historic control subjects. Their strategy involved a one-page pamphlet, an 11-minute video, and nurse support provided to new parents in maternity wards. A similar study in midstate New York showed a 75% decrease in AHT-related injuries [91]. The nonrandomized design of these two studies requires caution in overestimating the efficacy of this strategy. Two randomized trials have shown that perinatal education can improve parental understanding of the dangers of shaking an infant. Barr and colleagues in Vancouver, BC, Canada [92], and Washington state [93] performed a randomized trial of an infant crying educational curriculum (Period of PURPLE Crying). (PURPLE is an acronym for crying characteristics—peak pattern, unexpected timing, resistance to soothing, pain-like look, long bouts, and evening occurrence.) Neither of these trials showed improved caregiver knowledge about infant crying or the dangers of shaking an infant.

Conclusion

A diverse, complicated, international, transdisciplinary, and voluminous evidence base characterizes AHT. When this expansive evidence base is pieced together and taken in toto, AHT can be readily differentiated from alternative explanations of a child's injuries. The debate surrounding AHT is neither scientific nor medical, but legal. Although some authors question the specificity of the clinical findings [94–96], there is near-complete agreement, even among skeptics, that shaking of an infant is dangerous and can be fatal [94, 96, 97]. As in the antivaccine effort, many skeptics of AHT misrepresent or simply misunderstand the breadth of the published medical evidence and introduce this into courtrooms as so-called new science.

The evidence supporting AHT as outlined in this review clearly fits the Bradford Hill criteria for causation [98]. Maguire and colleagues [39] found strength of association for the findings with odds ratios of 10^3 to 10^6 for the com-

binations of findings (Bradford Hill criterion, strength). The findings of AHT are consistently made by multiple investigators, in multiple countries over a span of more than 100 years (Bradford Hill criterion, consistency). When the findings associated with AHT are combined, there are few, if any, true mimics (Bradford Hill criterion, specificity). The findings associated with AHT occur after a shaking or slamming event as opposed to before (Bradford Hill criterion, temporality). Shaking of an infant out of anger or frustration is readily endorsed both by parents in various countries and by those who have admitted injuring their children (Bradford Hill criterion, plausibility). The findings associated with AHT are clearly traumatic in origin and have consequences similar to those of other traumatic brain injuries (Bradford Hill criterion, coherence). Animal models have shown findings strikingly similar to those in human infants (Bradford Hill criterion, experiment). It is well described that patients may misrepresent their medical histories in an attempt to misdirect the physician to cover for objectionable behavior (e.g., drug-seeking behavior and eating disorders) (Bradford Hill criterion, analogy).

AHT is a devastating neurologic injury that constitutes a tremendous medical, social, emotional, societal, and financial burden. Abuse of any infant is a tragedy, a sign of a greater community shortcoming in which vulnerable children and their parents (for the most part) find themselves in circumstances that result in devastating injury. The features of abuse having been recognized for more than 150 years, great strides have been made in understanding its causes and consequences. This knowledge can and should be leveraged toward improving outcomes among victims of AHT and, ultimately, preventing it.

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EXHIBIT 3



Contents lists available at ScienceDirect

Child Abuse & Neglect

Abusive head trauma: A perpetrator confesses[☆]Erica Bell^a, Michelle Shouldice^b, Alex V. Levin^{c,*}^a Department of Ophthalmology and Vision Sciences, The Hospital for Sick Children, Toronto, Canada^b Division of Paediatric Medicine, Suspected Child Abuse and Neglect Programme, The Hospital for Sick Children, Toronto, Canada^c Pediatric Ophthalmology and Ocular Genetics, Wills Eye Institute, 840 Walnut Street, Philadelphia, PA 19107-5109, USA

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ABSTRACT

Objectives: To present a detailed confession from a perpetrator of Shaken Baby syndrome.**Methods:** Case study.**Results:** We present a confession of Shaken Baby syndrome describing how the perpetrator severely injured a 3 year old with repeated bursts of acceleration–deceleration (shaking). The child sustained retinal and intracranial hemorrhage. Details of the confession and circumstances by which it was obtained lead us to believe its accuracy.**Conclusions:** Accurate perpetrator confessions offer useful windows into realities and pathophysiology of abusive head trauma.

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Introduction

Shaken Baby syndrome is a form of abusive head trauma (AHT) that results from violent repetitive acceleration–deceleration forces with or without impact (Shaken Impact syndrome) producing characteristic head and ocular injuries. Other terminology has been suggested including Inflicted Traumatic Brain Injury (Bellemare, 2007). Subdural hemorrhage and cerebral edema are the head injuries most often associated with AHT. Hemorrhagic retinopathy is present in approximately 85% of victims (Lancon, Haines, & Parent, 1998; Levin, 2000). The victim is usually less than 1 year old but may be up to 3 years old (Levin, 2000), and there have been reported cases in older children (Mierisch, Frasier, Braddock, Giangiacomo, & Berkenbosch, 2004) as well as adults (Carrigan, Walker, & Barnes, 2000; Pounder, 1997). In confessed cases of AHT the abuser often reports that crying was the precipitating event that led to the abuse (Barr, Trent, & Cross, 2006; Lee, Barr, Catherine, & Wicks, 2007).

That shaking is associated with a characteristic pattern of brain (e.g., subdural hemorrhage, subarachnoid hemorrhage), eye (retinal hemorrhage), and bone injury (e.g., rib and limb metaphyseal fractures when present) is well recognized in the world's literature including that published by the American Academy of Pediatrics (American Academy of Pediatrics, 2001; Duhaime, Christian, Rorke, & Zimmerman, 1998; Reece & Nicholson, 2003). One can garner useful additional information about such events through detailed confessions in which the concern about truth telling by the perpetrator is lessened. We present the case of a man who confessed to severely injuring his girlfriend's 3 year old daughter by shaking. He was not the biologic father. The confession was obtained under unusual circumstances that lead us to believe that the description given by the perpetrator is accurate.

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Case report

One of the authors (AVL) was scheduled to testify in the criminal trial of a 6 foot tall, 82 kg man who was accused of assaulting a 3 year old, 15 kg child. The reported history from the accused was that the child had fallen in the bathtub from a standing position. The victim had a hematoma on the left side of her head when she presented to the hospital but the defendant recalls there being no blood in the tub. When medical help arrived, she was severely obtunded with a heart rate of 45. Neuroimaging revealed a frontal and posterior interhemispheric subdural hemorrhage requiring surgical evacuation. Preoperatively there was severe cerebral edema and the brain eventually underwent significant atrophy. Skeletal survey showed no fractures. Eye examination on admission showed multiple intra- and preretinal hemorrhages too numerous to count largely over retinal blood vessels and extending out to the ora where there was a predominance of hemorrhage, almost confluent in some areas and lining up against small vessels. As the perivascular distribution was more striking than seen in some abusive head trauma victims, an extensive systemic workup ensued with particular attention to the possibility of coagulopathy or vasculitis and included intracranial arterial biopsy during the neurosurgical procedure. The results of all tests were negative. The child is severely disabled with precocious puberty and severe cortical visual impairment with bilateral optic atrophy.

At a preliminary hearing the accused maintained his innocence. The testifying author (AVL) was to be the first witness at the full trial which occurred 3 years after the initial injury to the child. Due to some technical problems with the courtroom on the day of the author's scheduled testimony, there was a significant delay during which time the accused became agitated, called his attorney into a private meeting and then pled guilty before the start of his trial. The trial was adjourned for sentencing to take place at a later hearing to follow on another day. After the perpetrator was discharged from the court, in the presence of the police, the Crown Attorney (prosecution), and his counsel, he was asked by his counsel upon the author's request to speak with him for the purpose of research to learn about the events when he had injured the girl. The perpetrator was assured that the information he provided would not be available to the court or prosecution for the sentencing hearing or any other reason and would be used only in an anonymous fashion and may be published in the medical literature. The perpetrator was tearful after discharge from the court and requested 10 min to collect himself after which he met with the author in a private room in the courthouse, accompanied only by his attorney. He was questioned by the author in a non-directive fashion. The interview was opened by the author stating again that the perpetrator had no obligation to allow this interview, he could stop the interview at anytime, his contribution was appreciated, and that the interviewer's interests lie solely in understanding the events so that we could better understand this form of child abuse and perhaps gain information that would help us protect or save the lives of other children. The perpetrator's attorney then reinforced the lack of obligation to speak and the protection that this information would not be available to the court.

The perpetrator reported that at the time of the event the child was upset with having a bath while he was bathing her. Both the perpetrator and his girlfriend gave histories that prior to this event the child was entirely well. He was the only adult in the home of his girlfriend, and their biologic child was screaming in the other room. He was feeling frustrated. The perpetrator picked up the child such that each of his hands was under one axilla. He recalls that her feet were suspended from the floor. He described being as if he was in an altered state of consciousness. He shook the child 5–15 times over between 10 and 30 s repeated in 3 bursts separated by a very short period. When a period of 30 s was demonstrated the perpetrator thought that 30 s was longer than the shaking episode. He remembers her chin coming forward and touching her chest and her head going back far enough that he could see the bottom of her chin. He was not specifically asked and he did not specifically volunteer information about whether the child's occiput made contact with her upper back. On multiple questions he was absolutely certain that her head did not strike anything during the shaking. The perpetrator also remembers her whimpering during the shaking but not crying or resisting. He said he knew that shaking was wrong when he did it but just lost control. When it was over, he felt like he "snapped out of it" and realized what he had done. The child was still conscious. She looked up at him but was clearly not as alert and conscious as she had been before the shaking. When he looked at the child, who was looking up at him with a "look that someone gives when they feel like you have betrayed their trust" he felt like he had been "stabbed in the heart" as he realized what he had done. The perpetrator clearly described that the child was experiencing altered consciousness (i.e., no lucid interval). As the perpetrator set her down in the standing position in the tub, her knees buckled and she crumpled to the tub, but he turned away not wanting to see her. He heard her fall and he believes that the sound was from her head striking the tub.

The perpetrator went on to describe why he did not confess earlier. At the preliminary hearing he was so impressed by his attorney's performance, that he felt there was a good chance that he would be exonerated at the full trial. Subsequently, he found that he "couldn't live with the fact" that he was guilty.

Discussion

Abusive head trauma is rarely witnessed and most perpetrators do not confess to physicians caring for the child. Researchers have proposed biomechanical models to replicate these events, and no suitable animal model has been found. Accurate confessions assist researchers and clinicians in understanding the mechanics and cause of this kind of abuse. We had the unique opportunity to obtain a confession from a man who severely injured his girlfriend's 3 year old daughter. The confession occurred in a protected environment where he had nothing to gain by fabricating. Although we can never be absolutely certain that he was telling the truth and he had been exposed to some limited expert information about AHT

at his preliminary hearing and perhaps through the research of his attorney, we believe the unique circumstances and the nature of his report, support the veracity to his story.

The injuries he inflicted on the victim, intracranial and severe retinal hemorrhage extending to the edge of the retina, are typical of AHT. The manner in which he shook the child matches the violent acceleration–deceleration forces described by other authors. For example, the perpetrator describes the wide anterior–posterior excursions of the head that could lead to chin to chest and occiput to upper back impact as predicted by the model of Cory, Jones, James, Leadbeater, and Nokes (2001). Some authors (Duhaime et al., 1987) have argued that it is impossible for the extensive brain injury seen in many victims of AHT to occur without the head being impacted. The type of impact of the chin against the upper chest and the occiput against the upper back during shaking described by Cory et al. as well as this perpetrator may be sufficient. Alexander, Sato, Smith, and Bennett (1990) reviewed 24 cases of AHT and also found that the brain injuries sustained by children who had impact trauma were indistinguishable from those who did not. They concluded that shaking alone can produce the same kind of intracranial injury as shaking with impact, and that both can cause death. In addition, Geddes, Hackshaw, Vowles, Nickols, and Whitwell (2001) conducted a detailed neuropathologic study on 53 cases of non-accidental head injuries in children and found that the “shaken only” infants did not differ in pathology from the impacted group.

The perpetrator in this case was certain that the child’s head did not hit anything else during the shaking episodes. According to the perpetrator, the child was in an altered state of consciousness from the shaking alone. This supports literature that suggests it is unlikely for there to be a significant lucid interval after severe shaking (Starling, Holden, & Jenny, 1995). The only head impact in our case was when the child collapsed in the tub. The perpetrator heard an impact and the child had a hematoma of her scalp, but, the impact occurred after the child was symptomatic and this impact would not be consistent with her brain and eye injuries as short falls (i.e., less than 4 feet) do not cause severe retinal hemorrhages (Levin, 2000). The impact was not part of the deceleration event of shaking which Duhaime et al. (1987) proposed as essential to raise forces to injury thresholds. Spivack (2001) suggested that the nature of shaking may be a repeated series of rotational injuries occurring over a short period of time, and it is this additive effect that contributes to the severe brain injury. Using a neonatal pig model, other authors (Raghupathi, Mehr, Helfaer, & Margulies, 2004) have shown that this additive effect may be in part due to temporal spacing of events, as described by the perpetrator in our case. It is not known how many shakes or for how long a shaking episode must occur in order to see the profound brain and ocular injury seen in AHT. However, the description of this shaking episode is consistent with what Alexander, Levitt, and Smith (2001) described as being typical; they estimated shaking to occur between 5 and 10 s which corresponds to 10–30 shakes. The perpetrator in our case estimated that he shook the child 5–15 times over less than 30 s.

The overwhelming majority of AHT victims are less than 1 year old although older victims, including adults, have been reported (Lancon et al., 1998; Levin, 2000; Reece & Nicholson, 2003). The declining incidence with age is felt to represent the physical difficulty of applying injurious forces to the larger and heavier child. The oldest reported adult, a victim of torture by soldiers, actually had a skeletal dysplasia rendering him small for his age (Pounder, 1997). Larger perpetrators, like the one reported herein, may be able to occasionally inflict the forces necessary to cause characteristic AHT injuries to older children.

There are very few published detailed confessions from perpetrators of AHT. Obtaining true confessions can be difficult. Perpetrators may confess to shaking in the belief that shaking is less injurious than other forms of child abuse and therefore, that courts will be less likely to render more severe judgements. Perpetrators may also feel that a confession will demonstrate remorse, thus leading to a lesser sentence. In papers where confessions have been noted (Biron & Shelton, 2005; Duhaime et al., 1987; Geddes et al., 2001; Leestma, 2005; Starling et al., 1995) the exact mechanism of the shaking event is not always elucidated in the degree of detail we report here. In the present case the perpetrator had little, if anything, to gain and was assured that anything he said would be kept confidential and would have no impact whatsoever on the outcome of his trial. We cannot rule out the possibility that despite these assurances, he may have been distrustful and proceeded to give a falsely severe or falsely underestimating confession in hopes that this would be used in his favor.

Our report offers further evidence that violent shaking can and does produce profound brain and ophthalmic injuries in children as old as 3 years. The perpetrator has also offered us some insight into the mechanisms by which such injuries can occur. Other valuable insights might be obtained by future researchers obtaining detailed perpetrator statements in similar circumstances.

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EXHIBIT 4

BRIEF COMMUNICATION

M.G.F. Gilliland,¹ M.D.

Interval Duration Between Injury and Severe Symptoms in Nonaccidental Head Trauma in Infants and Young Children*

REFERENCE: Gilliland MGF. Interval duration between injury and severe symptoms in nonaccidental head trauma in infants and young children. *J Forensic Sci* 1998;43(3):723-725.

ABSTRACT: Forensic pathologists are frequently asked to describe the interval between injury and the onset of symptoms in child abuse head injury deaths. A prospective, postmortem study examined the interval between injury and onset of symptoms in 76 head injury deaths in which this information was available. The head injury deaths were divided by mechanism of injury. The mechanisms were shake (no impact), combined shake and blunt impact, and blunt impact (no history of shaking). The interval was less than 24 hours in 80% of shakes, 71.9% of combined, and 69.2% of blunt injuries. The interval was greater than 24 hours in more than 25% of each of these latter groups and was more than 72 hours in four children. The variable intervals between injury and severe symptoms warrant circumspection in describing the interval for investigators or triers of fact. It should be noted that in all of the cases where information was supplied by someone other than the perpetrator, the child was not normal during the interval.

KEYWORDS: forensic science, child abuse, head injury, interval to symptoms

As more head injury child deaths are recognized as abusive and therefore investigated, forensic pathologists are more frequently asked to determine the time of injury. This information is used to identify or exclude possible perpetrators. Many forensic pathologists have had the experience of investigating several such deaths and finding that the interval between injury and presentation is brief. In 1995 Nashelsky and Dix found minimal data to substantiate or contradict the concept that the interval is very short (1). Howard, Bell and Uttley reported the intervals from injury to neurosurgical evaluation for 28 children with subdural hemorrhage in 1993 (2). They found two of the three children with documented shaking injury had intervals within 24 hours but the third was 72 hours. For the other 25 infants with subdural hemorrhage 13 presented in 24 hours, three in 24-72 hours, and nine after more than 72 hours. The present study was undertaken to examine the interval from injury to symptom onset.

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*Presented at the National Association of Medical Examiner's Meeting, September 14, 1996, Traverse City, MI.

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Methods

A prospective, postmortem study investigated 169 child deaths and examined this interval in the 76 head injury deaths with such information available. These children with head injuries are a subset of a larger group of children reported previously (3).

Sample Selection

One hundred seventy-five of nearly 400 deaths of young children investigated at the Dallas County Medical Examiner's Office from 1982 to 1989 were studied prospectively. Case selection depended on random assignment of cases and on the prosecutor's willingness to participate in the study. Nineteen pathologists contributed one or more cases each by the end of case collection. All child deaths were equally likely to be included in the study. The deaths included diagnoses of child abuse, suspected child abuse, apparent accidental trauma, and apparent natural death. History, autopsy findings, and ocular findings were gathered and reviewed for the more general study. Children whose immediate cause of death was head injury were selected to examine the interval from injury to severe symptoms.

Symptom Onset Definition

The onset of severe symptoms was identified as the time when an external event occurred or the caretaker called for medical assistance. In these young children the symptoms were extreme: unresponsiveness, difficulty breathing, cardiorespiratory collapse. The persons identifying the symptoms were usually the caregiver calling or presenting for emergent medical attention. In some cases the identifiers were persons witnessing an external event such as a motor vehicle collision. The need for emergent medical attention was confirmed by the health care workers who evaluated the children and found them unresponsive, commonly without vital signs or with failing vital signs.

Mechanism of Injury

The deaths caused by head trauma were divided by mechanism of injury as described previously (4). The factors used in the definition included: finger marks or rib fractures; history of shaking; subdural and/or subarachnoid hemorrhage; and evidence of impact (contusions, subscalpular hemorrhage, skull fractures). The mechanisms so defined were shake (no impact with two of the following—finger marks or rib fractures, subdural or subarachnoid hemorrhage, history of shaking), combined shake and blunt impact

(impact with finger marks or rib fractures, history of shaking), and blunt impact (no finger marks or rib fractures, no history of shaking).

Results

Forty-six percent were less than one year old, 22% were between one and two years of age, and 32% were over two years of age. Forty-two were white; 24 were black; 7 were of Hispanic origin; and 3 were of other ancestry. Forty-one of the 76 children were male.

Five of the infants had exclusive shaking mechanism of injury. Both shaking and blunt mechanisms were identified in 32 infants and children. Exclusively blunt mechanisms of injury were identified in 39 of the infants and children.

The interval was less than 24 hours in all but one of the five shaken infants. It was less than 24 hours in 71.9% of 32 infants with combined, and 69.2% of 39 with blunt injuries (Table 1). The interval was greater than 24 hours in more than 25% of the groups with a blunt force component and extended more than 72 hours in four children with blunt trauma as a part of the mechanism—one with combined shake and blunt mechanisms, and three with exclusively blunt mechanism.

The 22 cases with intervals longer than 24 hours were reviewed to determine if any symptoms had been described prior to the catastrophic collapse leading to death or brief hospitalization prior to death. Ten of these children were described as lethargic or otherwise abnormal during the interval. The other twelve were in the care of the presumed perpetrator and had no credible description of their condition.

These findings are depicted graphically in Fig. 1. The columns with no volume are the graphical representation of zero.

Discussion

The interval from injury to catastrophic or near-catastrophic collapse requiring medical attention, or death is observed to be short, less than 24 hours, in almost all the babies with shaking as the exclusive mechanism of injury. This correlates with our understanding of the effect of violent shaking causing global disruption of the nervous system. Diffuse axonal injury can be demonstrated if life support is maintained. The expression "violent" is appropriate, although some find it objectionable (5,6).

In this study some of the infants with blunt force as part or the exclusive mechanism of injury presented more than 24 hours after injury. Blunt injuries are not necessarily as immediately disruptive of the nervous system and brain functioning as violent shaking. Secondary phenomena including brain swelling and edema produce symptoms. Although brain swelling and edema can develop

TABLE 1—Interval from injury to severe symptoms.

Interval in Hours	Mechanism of Injury			Total
	Shake	Combined	Blunt	
Less than 24	4	23	27	54
24 to 48	1	8	6	15
48 to 72	0	0	3	3
More than 72	0	1	3	4
Total	5	32	39	76

Interval: Injury to Presentation

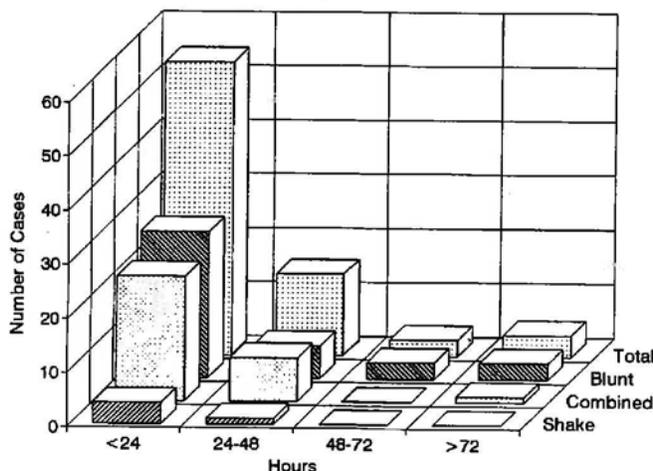


FIG. 1—The graphic display confirms the impression that most of the children will present with severe symptoms in an interval of less than 24 hours after injury.

very rapidly, in less than 24 hours, delayed onset of symptoms is not uncommon.

The proportion of children presenting beyond 24 hours was not as great as found by Howard et al. (2) in their retrospective clinical study of 28 infants and young children identified as having subdural hematoma after presenting for neurosurgical evaluation. Six of the children in their study died within a week of hospitalization, and two others 8 and 9 years later. No autopsy information was provided. Nine of the children survived neurologically intact (2). Thus, the cases of Howard et al. were not as severely injured and do not serve as a comparable group for fatally injured children.

Conclusion

Enough variability in the interval between injury and the time of severe symptoms or presentation for medical care in fatally injured children exists to warrant circumspection in describing such an interval for investigators or triers of fact. Our data indicate that the interval is brief (less than 24 hours), in almost $\frac{3}{4}$ of cases of head injury death, especially in shaking injuries. However, in more than $\frac{1}{4}$ of the cases, the interval from injury to the onset of severe symptoms is longer. In all cases in which the children were seen by an independent observer after injury, they were described as not normal.

Acknowledgments

Critical review is provided by Irma Fiordalisi MD Associate Professor of Pediatrics at East Carolina University School of Medicine and Pediatric Intensivist at Children's Hospital of Eastern North Carolina.

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EXHIBIT 5

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February 6, 2012

PIMA County Attorney's Office
Criminal Division
Special Victims Unit
ATTN: Sue Eazer

Dear Ms. Eazer,

I am writing to you as the Editor of the Americas of *Pediatric Radiology*. I have served in this capacity since 2003. I was Assistant Editor from 1995 through 2002. This is in response to the accusations made by Dr. Barnes in a deposition you forwarded to me concerning a case in Tucson.

Our journal publishes many types of articles. Original articles are essentially research papers (clinical or basic science). Case reports contain information that extends well beyond the case reported. We also publish review articles and pictorial essays, which summarize a topic but do not necessarily add anything new. All of these rubrics (original article, case report, pictorial essay, review) are peer reviewed with at least two, and most often three, reviewers. The editor and assistant editors also review the comments from reviewers, read the articles, and discuss their validity and pertinence for publication. This makes us a peer reviewed journal.

We also publish editorials, commentaries, summaries of the literature and occasionally other rubrics. These articles are based on the writer's opinions, not scientific evidence. They are not necessarily peer reviewed but are read and discussed by the editors and assistant editors and, when necessary, we bring in other experts to help us. Therefore, you can have an article in a peer reviewed journal without actually having peer review and the "scientific accreditation" that goes with it. The article that you asked me about (Keller and Barnes: "Rickets vs. Abuse: A National and International Epidemic") was in the nature of non-peer reviewed manuscripts that were published for discussion or to suggest new avenues of approach. It was originally submitted as a letter but changed by the editors to a commentary so that other points of view could be expressed.

The issue that the editorial board of *Pediatric Radiology* refuted the work of Dr. Kenneth Feldman in the letter under discussion is absolutely unfounded. In fact, there was no reply by the editors except for an editorial by Dr. Peter Strouse (*Pediatric Radiology* 2009; 39:1033 "Vitamin D Deficiency vs. Child Abuse: What Do We Know Now and Where Do We go?") in which Dr. Strouse states: "There is *no* concrete evidence in the literature that vitamin D deficiency in infants younger than 6 months of age renders them susceptible to the same types of fractures as have been accepted to bear high specificity for child abuse." Much the same conclusion is stated by Drs. Slovis and Chapman in their editorial (*Pediatric Radiology* 2008; 38:1153 "Vitamin D Insufficiency/Deficiency – a Conundrum"), which accompanied the Barnes commentary ("In conclusion, the demonstration of vitamin D insufficiency/deficiency levels and the bone changes of rickets are not the same. Each must be considered separately. For these reasons and because of the other data described, we find that the connection made by Keller and Barnes between "rickets" and fractures they consider to be similar in appearance to those seen in child abuse is not based on any scientific data.").

The statement by Dr. Barnes that the Society for Pediatric Radiology and the *Pediatric Radiology* journal apologized is fraudulent. Reprinted below is the editorial note concerning the timing of publication of Dr. Feldman's letter and the letter from Drs. Keller and Barnes: "Editor's note: It is the policy of the journal to publish simultaneously, both online and in print, letters to the editor and the authors' reply. Because of the many revisions necessary before the authors' reply was accepted, Dr. Feldman's letter was mistakenly published online first. I apologize to Drs. Keller and Barnes for this inadvertent error in our editorial process. T. L. Slovis." This note preceded the Keller and Barnes letter, and it was only a process error that occurred and does not in any way concern the scientific validity of the work of Drs. Keller and Barnes and Feldman.

I must comment on some of Dr. Barnes' other statements. While it is true that his original submission was edited, he never disclosed in his original manuscript that he was involved in the cases presented in legal proceedings. It is untrue that the original article included information about Drs. Keller and Barnes "appearing regularly in criminal defense cases." There were no disclosures of any of these legal activities in the commentary until after being asked by the editors.

It is absolutely fraudulent to say that "a senior executive editor of *Pediatric Radiology* ... resigned after all of this and another one recently resigned." Our assistant editors serve a 5-year term and an editor completed his term, was in perfect agreement with the handling of the commentary, and he resigned so that he could assume added responsibility at his home institution. In addition, Dr. Chapman had been working with the journal since 1990 and assumed the position of Editor outside the Americas in 2003. He was asked to assume significant administrative responsibilities at the Birmingham Children's Hospital in England and stepped down as editor in 2010. He has never wavered from the views we expressed in our commentary or had never been asked to step away from his editorship. I have been editor for 10 years and now, 4 years after these articles were published, have completed my second term. Though I was asked to stay on as editor by the Society for Pediatric Radiology, I feel that 10 years has been a long enough term (I am age 70), and I will complete my editorship at the end of December 2012. This is, of course, totally unrelated to the commentary.

Once again, I must reiterate that no one on the editorial board of *Pediatric Radiology* has ever disputed Dr. Feldman's claims or handled any investigation.

Concerning Dr. Barnes' statement about congenital rickets vs. infantile rickets, the commentary by Slovis and Chapman has a 2-page section specifically on congenital rickets with a table derived from the references in the Barnes commentary. There is no misunderstanding or perception of what we were talking about – congenital rickets.

This was written in response to your request for information, and I hope I have covered the issues.

Sincerely,



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Chief Emeritus, Diagnostic Imaging
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/pv

EXHIBIT 6

Journal of Child Neurology

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Abusive Head Trauma: Past, Present, and Future

Sandeep Narang and Jennifer Clarke

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What is This?

Abusive Head Trauma: Past, Present, and Future

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Sandeep Narang, MD, JD¹, and Jennifer Clarke, MD²

Abstract

Abusive head trauma has a robust and interesting scientific history. Recently, the American Academy of Pediatrics has endorsed a change in terminology to a term that is more general in describing the vast array of abusive mechanisms that can result in pediatric head injury. Simply defined, abusive head trauma is “child physical abuse that results in injury to the head or brain.” Abusive head trauma is a relatively common cause of childhood neurotrauma, with an estimated incidence of 16 to 33 cases per 100 000 children per year in the first 2 years of life. Clinical findings are variable; AHT should be considered in all children with neurologic signs and symptoms, especially if no or only mild trauma is described. Subdural and retinal hemorrhages are the most common findings. The current best evidence-based literature has identified some features—apnea and severe retinal hemorrhages—that reliably discriminate abusive from accidental injury. Longitudinal studies of outcomes in abusive head trauma patients demonstrate that approximately one-third of the children are severely disabled, one third of them are moderately disabled, and one third have no or only mild symptoms. Abusive head trauma cases are complex cases that require a rigorous, multidisciplinary team approach. The clinician can establish this diagnosis with confidence if he/she maintains a high index of suspicion for the diagnosis, has knowledge of the signs, symptoms, and risk factors of abusive head trauma, and reasonably excludes other etiologies on the differential diagnosis.

Keywords

child abuse, abusive head trauma, nonaccidental trauma, shaken baby syndrome, pediatric traumatic brain injury, inflicted brain injury

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Since its inception, abusive head trauma has been known by many different names—“whiplash shaken infant syndrome,”¹ “inflicted childhood neurotrauma,”² “nonaccidental head injury,”³ “shaken baby syndrome,” and most recently, “abusive head trauma.”⁴ This most recent shift in terminology reflects an attempt by the American Academy of Pediatrics to encourage physicians to utilize more general terms in describing the vast array of abusive mechanisms that can result in pediatric head injury.⁴ As there are many mechanisms for inflicting pediatric head injury (blunt force trauma, acceleration/deceleration [inertial] forces, penetrating trauma, and asphyxiation), the use of more general terminology is, ironically, more diagnostically precise, as the exact abusive mechanism may not be immediately determinable.

Probably unbeknownst to many physicians, abusive head trauma/shaken baby syndrome has engendered some controversy in the public media⁵ and legal literature.⁶ As a consequence, physicians have increasingly been, and may continue to be, questioned about the validity of the diagnosis. This review will examine the historical context of the diagnosis, the current medical evidence base for the diagnosis, and areas of ongoing and future research. Finally, we will emphasize the

subspecialist’s role, in particular the child neurologist, in the diagnosis and management of abusive head trauma.

Historical Context

Some of the strongest diagnostic roots of abusive head trauma can be traced back to the early 1900s. Prior to that time, physicians were highly influenced by the prevalent “germ theory” for medical diseases. Consequently, the medical community presumed that subdural hemorrhages were caused by infection and inflammation, terming it “pachymeningitis hemorrhagica interna.” Frustrated by that term, a prominent British neurosurgeon, Sir Wilfred Trotter, identified trauma as the primary etiology of subdural hemorrhages.³ Trotter stated, “[Subdural

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hemorrhages] [are] almost if not quite invariably a true traumatic haemorrhage coming from veins torn in their course between the brain and a dural sinus."³ Trotter's work paved the way for other physicians to reexamine the pathophysiology of subdural hemorrhages. As a consequence, multiple case reports by well-reputed physicians began to question other previously well-recognized causes—syphilis,^{3,7} hydrocephalus,^{3,8} and nutritional (scurvy)^{3,9}—as the primary etiology for subdural hemorrhages.

Thereafter, physicians began publishing reports of various traumatic injuries, for which no presumable correlation could be found. In 1946, Dr John Caffey, widely recognized as the father of pediatric radiology, published a case series of 6 infants with subdural hemorrhages and long bone fractures.¹⁰ In none of the 6 cases was there a historical report of trauma or of systemic disease. Nevertheless, after systematically ruling out all other causes, Caffey concluded that trauma was the most logical etiology for these radiologic findings. Caffey even associated the retinal hemorrhages in several of these cases to trauma. Caffey, however, was reluctant to conclude inflicted injury in these cases. In the 2 decades that followed Caffey's historic article, multiple articles, from national and international authors, confirmed the association of subdural hemorrhages with trauma.^{3,11}

However, it was only in 1962 that the work of an eminent pediatrician, C. Henry Kempe, and his colleagues brought the issue of child abuse to the medical and national forefront. In their landmark article, "The Battered-Child Syndrome,"¹² Kempe et al carefully and thoughtfully described a syndrome of various injuries, including subdural hemorrhages, that resulted from trauma. However, unlike the vast majority of physicians that preceded them, Kempe et al concluded that these injuries resulted from the intentional acts of parents or other caregivers. Kempe et al stated that abuse "should be considered in any child exhibiting evidence of fracture of any bone, subdural hematoma, failure to thrive, soft tissue swellings or skin bruising, in any child who dies suddenly, or where the degree and type of injury is at variance with the history given regarding the occurrence of trauma."

As a consequence of Kempe and colleagues' historic work, and the general medical community's increasing acceptance of child abuse as a viable medical entity, case reports continued to publish the presence of concurrent subdural hemorrhages, retinal hemorrhages, and bony lesions in infants, often without external signs of trauma. Finally, in the early 1970s, based on the work of Wilfred Trotter, numerous case reports, and the experimental biomechanical evidence of Ommaya and colleagues,^{13,14} a British Neurosurgeon, A. Norman Guthkelch, and the Father of Pediatric Radiology, John Caffey, proposed shaking or whiplash injury as the cause of infantile subdural hemorrhages.^{1,15} In theorizing that multiple acceleration and deceleration events caused by head shaking caused the intracranial injuries, Guthkelch stated that "the relatively large head and puny neck muscles of the infant must render it particularly vulnerable to whiplash injury." That syndrome has evolved into what is known as abusive head trauma today.

Table 1. Factors Have Been Associated With an Increased Risk for Abusive Head Trauma in a Child.

Male gender of the child ²¹
Young child age ^{17,18}
Young maternal age ^{17,18}
Male caregiver ²²
Lower socioeconomic status ²³
Caregiver substance abuse ²²
Caregiver mental health disease ²⁴
Intimate partner violence ²⁵

Epidemiology

For various reasons, the precise incidence of abusive head trauma has proven elusive. Although definitional variance has been an issue, physician underdiagnosis¹⁶ and underreporting have probably been the most pervasive and persistent reasons for imprecise data. Population-based studies^{17,18} have estimated the incidence of abusive head trauma in the first 2 years of life to be 16 to 33 per 100 000 infants per year. Data (eg, anonymous parental surveys¹⁹), however, suggest this to be an underestimate. Placed into perspective with other childhood maladies, abusive head trauma is as prevalent as neonatal meningitis (25-32 per 100 000 live births) and lymphatic leukemia (28.7-36.6 per 100 000 children <1 year old).²⁰ Yet, clinicians are still uncomfortable with the diagnosis and, more concerning, are still reluctant to even consider it on the differential in a child with head injury.

Several factors have been associated with an increased risk for abusive head trauma in a child (Table 1). Factors that have *not* been associated with an increased risk of abusive head trauma are race and ethnicity. Additionally, a triggering event, such as crying, has been linked with creating an environment conducive to, but not necessarily causative of, abusive head trauma.²⁶ As such, educating caregivers on the appropriate response to infant crying has been the subject of many abusive head trauma prevention programs.

Although these risk factors are interesting and instructive, they should be implemented with caution. They are not to be utilized in creating a template or "patient profile" of abuse (ie, "a 2 month old male infant being cared for by mom's boyfriend = abuse"). Using these factors in such a fashion will generate heuristics that invariably will result in cognitive diagnostic errors. Jenny et al¹⁶ clearly demonstrated the disastrous consequences (missing 4 of 5 deaths resulting from abusive head trauma) that occur when physicians anchor upon certain risk factors and base diagnostic decisions upon erroneous patient profiles. These factors provide a backdrop. In cases concerning for abuse, they will "set the stage." They will portray an environment of an already stressed caregiver, with an inadequate social support network, confronted with an additionally stressful event.

Diagnosis

Abusive head trauma is simply "child physical abuse that results in injury to the head or brain."²⁷ However, determining whether

abuse has occurred is itself not a simple process. Increasingly, physicians are recognizing that the best determinations in these difficult cases are made via a multidisciplinary team approach.²⁸ The typical composition of a multidisciplinary child protection team includes a child abuse pediatrician (now with subspecialty board certification available since 2009), a social worker, and relevant medical/surgical subspecialists (such as pediatric radiology, pediatric ophthalmology, and pediatric neurosurgery). The multidisciplinary child protection team confers with child protection workers and, occasionally, other investigative personnel to review all information related to a particular case, and renders diagnostic impressions.

Infants and children with abusive head trauma present with a *wide* range of symptoms—from nonspecific symptoms such as irritability, poor feeding, vomiting (15%), or delayed development (12%) to life-threatening symptoms such as lethargy (77%), respiratory compromise, seizures (43%-50%) or apnea.²⁰ The clinical presentation will depend on the severity of the inflicted trauma and, consequently, the severity of the resulting brain injury. Abusive head trauma can also result in a variety of physical findings: scalp injury, skull fractures, intracranial hemorrhage, diffuse axonal injury, cerebral edema, cervical spine fractures, cervical spinal cord injury/hemorrhage, retinal hemorrhages, rib fractures, and long bone fractures. As seizures or developmental delay are not uncommon presentations of abusive head trauma, the child neurologist will often be consulted in the diagnostic process.

Given the variability in presentation, clinicians should maintain a high index of suspicion for abusive head trauma. Abusive head trauma should be on the differential of all children less than 2 years with neurotrauma, and infants who present with a variety of nonneurologic presentations, such as increasing head circumference, vomiting, excessive crying, and developmental delay. In a recent systematic review by Maguire et al, the only reliably discriminating symptom between abusive and accidental head trauma was apnea, having a positive predictive value of 93% and odds ratio (OR) of 17 for inflicted brain injury.²⁹

The most common findings, however, are subdural hemorrhages and retinal hemorrhages. Subdural hemorrhages have been reported in 77% to 90% of patients with abusive head trauma, and retinal hemorrhages have been described in approximately 74% to 82% of abusive head trauma cases.²⁰ Although subdural and retinal hemorrhages are the more common features of abusive head trauma, they have an extensive differential diagnosis (see Tables 2 and 3). Radiographically, certain characteristics of subdural hemorrhages demonstrate a greater association with abusive head trauma. In their systematic review of neuroradiologic features in abusive and nonabusive head trauma, Kemp et al³⁰ reported that multiple subdural hemorrhages and subdural hemorrhages in certain locations (ie, within the interhemispheric fissure or over the convexities) were significantly statistically associated with abusive head trauma.

It is important for the clinician to understand that not all retinal hemorrhages are the same. Hemorrhages can occur on the surface of the retina (preretinal), under the retina (subretinal),

Table 2. Differential Diagnosis of Subdural Hemorrhages.

Trauma
Inflicted/abusive
Accidental
Birth
Metabolic diseases
Glutaric aciduria type I
Menkes disease
Hemophagocytic lymphohistiocytosis
Nutritional deficiencies
Genetic syndromes
Osteogenesis imperfecta
Ehlers-Danlos syndrome type II
Hereditary hemorrhagic telangiectasia
Coagulopathies (clotting disorders)
Hemophilia
Hemorrhagic disease of the newborn
Tumors
Lymphoblastic leukemia
Neuroblastoma
Infections
Herpes simplex virus meningoencephalitis
Bacterial meningitis

Table 3. Differential Diagnosis of Retinal Hemorrhages.

Trauma
Inflicted/abusive
Accidental
Birth
Metabolic diseases
Glutaric aciduria type I
Hemophagocytic lymphohistiocytosis
Nutritional deficiencies
Genetic syndromes
Osteogenesis imperfecta
Ehlers-Danlos syndrome type II
Anemia
Coagulopathies (clotting disorders)
Hemophilia
Hemorrhagic disease of the newborn
Carbon monoxide poisoning
Vasculitis
Hypoxia/hypo- or hypertension
Papilledema/increased intracranial pressure
Tumors
Lymphoblastic leukemia
Cerebral aneurysm
Hemangioma
Infections
Herpes simplex virus meningoencephalitis
Bacterial meningitis

or within the retinal layers (intraretinal). Hemorrhages can have a certain appearance and size (eg, “flame,” “splinter,” or “dot-blot”) and can be confined to the posterior pole or extend to the ora serrata (the edges of the retina).³¹ Mild retinal hemorrhages are generally understood to be a few, dot/blot or flame/splinter-shaped, in the intraretinal or preretinal layers, and confined to the posterior pole (see Figure 1).



Figure 1. Mild nonspecific retinal hemorrhage confined to the posterior pole. Arrows show superficial flame hemorrhages. Arrowheads indicate dot/blot intraretinal hemorrhage.

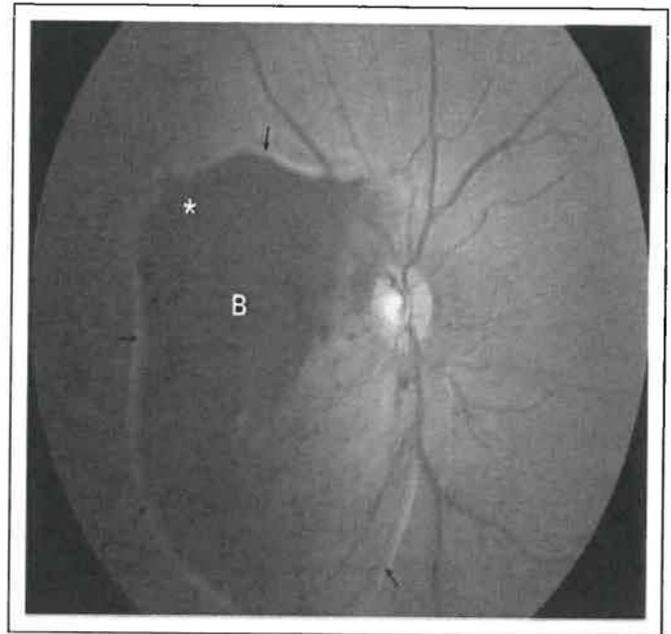


Figure 3. Macular traumatic retinoschisis. Blood (B) within the schisis cavity. Arrows indicate surrounding hypopigmented (pale appearance) retinal fold at the edge of the schisis cavity.

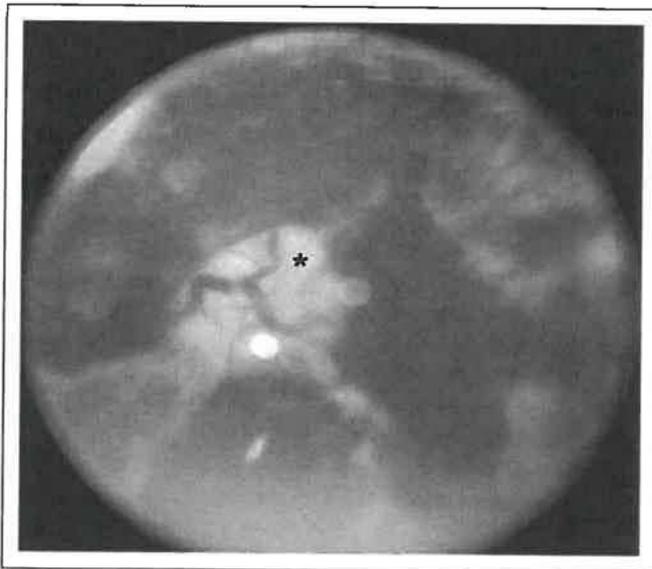


Figure 2. Severe retinal hemorrhages, too numerous to count, surrounding the optic nerve (*). Virtually no normal retina is visible due to the severity of the hemorrhages.

Severe retinal hemorrhages are generally understood to be diffuse, too numerous to count hemorrhages, extending to the periphery of the retina (not confined to the posterior pole), usually involving multiple layers of the retina (intraretinal, pre-retinal, or subretinal), and sometimes accompanied by retinoschisis with or without folds (see Figures 2 and 3).³² Given the importance of the description of the retinal hemorrhages, clinicians are exploring the development of a standardized tool for reporting ophthalmic findings.³³

Although advances in our understanding have educated us that retinal hemorrhages are not pathognomonic for abusive head trauma, severe hemorrhagic retinopathy does hold high specificity and positive predictive value for abusive head injury. In a systematic review examining the characteristics of retinal findings that distinguish abusive from accidental trauma, Maguire et al³² found that retinal hemorrhages were “rare in accidental trauma and, when present, are predominantly unilateral, few in number and in the posterior pole.” The authors went on to conclude that “certain patterns of RH [retinal hemorrhages] were far commoner in AHT [abusive head trauma], namely large numbers of RH in both the eyes, present in all layers of the retina, and extension into the periphery.” Similar results were reported by Vinchon et al³⁴ in their comparative study of witnessed accidents and confessed abuse cases (see Figure 4 below).

Cervical spine injury has been an underreported and underappreciated clinical aspect of abusive head trauma. However, it is an area that has generated increasing clinical and radiographic interest in recent years. Initial studies indicated low detection rates of c-spine injury in children with abusive head trauma.³⁵ But more recent case series have found increased detection of cervical spine injuries in up to 44% of children with confirmed inflicted trauma.³⁶ Most commonly, cervical spine injury radiographic manifestations include ligamentous injury, spinal extra-axial hemorrhage, and vertebral body subluxations or fractures.³⁷ Less common, but still described, manifestations include spinal cord injury and spinal cord injury without radiologic abnormality.³⁸ Currently, dedicated c-spine computed tomography (CT) or magnetic resonance magnetic resonance imaging (MRI) is not a routine part of the

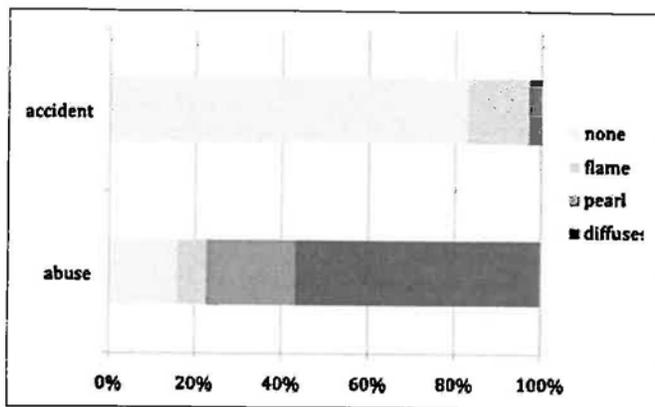


Figure 4. Retinal hemorrhage in the accidental trauma and inflicted head injury groups. Although most cases of abuse were associated with severe hemorrhage, 7 had no hemorrhage, and 3 had only mild hemorrhages. Conversely, no or mild retinal hemorrhages were found in 34 cases of accidental trauma, and only 1 had severe hemorrhage caused by direct facial impact.

abusive head trauma evaluation.³⁹ Although larger-scale studies are needed to determine the utility of c-spine CT or MRI as a routine course in abusive head trauma evaluations, physicians should consider those modalities in cases where historical or clinical signs and symptoms warrant further investigation.

Laboratory evaluation in suspected abusive head trauma is variable and injury specific. Initial laboratory evaluation should include a comprehensive metabolic panel, a complete blood count, and a basic coagulation panel (prothrombin time and partial thromboplastin time). Additional bleeding studies (such as platelet function tests, fibrinogen levels, D-dimer, specific factor levels, or von Willebrand factor panels) may be ordered, in consultation with a pediatric hematologist, especially if the initial screen is abnormal. Physicians should remember that patients who suffer a traumatic brain injury can have a transient coagulopathy that does not reflect an underlying congenital disorder. Additional metabolic (serum amino acids, urine organic acids, and serum acylcarnitine profile) and bone health (phosphorous, intact parathyroid hormone, and vitamin D 25-OH levels) studies may also be ordered, in consultation with a child abuse pediatrician, in the presence of particular injuries. Dilated indirect ophthalmoscopy by a pediatric ophthalmologist is the method of choice for evaluating the retinas of children suspected of having suffered abusive head trauma.

Radiographic skeletal survey is the primary imaging modality in any child younger than 2 years with suspicious injuries. "Babygrams" or limited skeletal surveys are inadequate modalities for properly assessing suspected abuse. The American College of Radiology has provided specific, evidence-based guidelines for the skeletal and neuroradiologic evaluation of suspected abuse.³⁹ Despite advances in MRI, CT of the head remains the imaging modality of choice in the initial evaluation of pediatric head trauma. MRI is an important adjunct in the evaluation of abusive head trauma, often used to further clarify CT findings. CT and MRI can be useful in providing *general* age ranges of intracranial hemorrhages.⁴⁰ The absence of a

validated model predicting the evolution of blood signal in head-injured infants and the differential mixing and settling of blood components are just a couple of reasons that *precise* dating of intracranial hemorrhage in infants should be avoided.

Arriving at the diagnosis of abusive head trauma is no different than arriving at any other clinical medical diagnosis: it starts with a detailed history and physical examination. For abuse cases, a particular emphasis is placed upon a detailed history of the events surrounding the presenting symptom(s), a trauma history, and a comprehensive psychosocial history. It is important to note that a trauma history often is missing in a child with abusive head trauma, or a minor trauma history is given (a fall from a sofa or bed, for example). Corroborating what common sense and clinical experience already mandate, Hettler and Greenes found that an absent or evolving trauma history had a 97% specificity and 92% positive predictive value for abusive head trauma.⁴¹ Many of the potential disorders on the differential can be eliminated through a detailed history, physical examination, and initial laboratory and radiologic information. Ultimately, in the vast majority of cases, the common denominator for subdural and retinal hemorrhages will be trauma.

Differential Diagnosis

As mentioned above, an extensive list of medical conditions with features of intracranial hemorrhage and/or retinal hemorrhage can be confused with abusive head trauma. A review of all these conditions is beyond the scope of this article. The most common conditions that could present with findings concerning for abusive head trauma—accidental trauma, birth trauma, bleeding disorders, metabolic disease, and anatomic conditions—will be briefly discussed here. The vast majority of these conditions can be distinguished from child abuse with a detailed history, careful physical examination, and radiologic or laboratory studies.

Accidental Trauma

Children fall frequently, and falls are one of the most commonly offered explanations provided to explain a child's serious head injury. In Fujiwara and colleagues' review of 28 abusive head trauma cases and 232 nonabusive head injuries, fall was the history presented in at least 17.9% and 62.9% of the cases, respectively.⁴² Authors in pediatric literature have defined short falls as heights varying from less than 15 feet, to 10 feet, to less than 1.5 meters (5 feet). Although there exists no standardized definition of a "short fall," more recently consensus has shifted toward recognizing a "short fall" as a fall of less than 1.5 m (5 feet).

Serious and fatal injuries following accidental falls *can occur, but very, very rarely*, and usually involve complex falls involving stairs or infant walkers.^{43,44} The knowledge base for such a conclusion stems from various well-conducted studies in various lines of research. Household falls most often result in no injury. Injuries that are seen are primarily focal, contact injuries such as a scalp laceration or contusion.⁴⁵ Witnessed

falls in objective settings such as hospitals or day cares have rarely resulted in significant injury.⁴⁶ In 2010, the Centers for Disease Control and Prevention data on fatal injuries shows there were 37 fatal falls in a population of more than 20 million children ages 0 to 4 years—a rate of 0.18 per 100 000 children.⁴⁷ Furthermore, retinal hemorrhages, as a result of accidental falls, motor vehicle collisions, or other accidental trauma, are an uncommon occurrence and present as few in number, intraretinal, and located in the posterior pole of the retina.⁴⁸

Birth Trauma

Both subdural hemorrhages and retinal hemorrhages have been described as a result of the birth process. However, important differences exist between the hemorrhages observed in birth trauma and those associated with abusive head trauma. Intracranial hemorrhages from birth are usually asymptomatic, located in the posterior fossa, and resolve by 2 to 3 months of age.⁴⁹ Historical features associated with subdural hemorrhage from birth are those born prematurely, operative vaginal delivery, or with disorders of coagulation in mothers or babies. Retinal hemorrhages frequently occur from birth. A recent large series of 3573 infants by Li et al⁵⁰ found the incidence of retinal hemorrhage to be about 22% within 1 week of birth. Vacuum-assisted delivery is more likely to be associated with birth-related retinal hemorrhages. But the vast majority of birth-related retinal hemorrhages are intraretinal, located in the posterior pole, and resolve by 2 to 4 weeks of life.⁵¹

Bleeding Disorders

Bleeding disorders may be congenital (inherent to the genetic makeup of an individual) or acquired. Several coagulopathies are of consideration in cases of abusive head trauma—von Willebrand disease, mild platelet disorders, vitamin K deficiency, and factor XIII deficiency. It is important for the clinician to remember that most bleeding disorders are rare; the more common bleeding disorders typically are mild; and intracranial hemorrhage resulting from bleeding disorders is a rare complication of the more severe diseases.⁵² Furthermore, intracranial hemorrhage, as the initial presentation of an underlying coagulopathy, is an extremely rare event.

Of the major inherited bleeding disorders, von Willebrand disease is the most common congenital bleeding disorder. Current estimates indicate that low von Willebrand factor levels may occur in up to 1% of the US population. It most commonly presents with mild to moderate bleeding from the nose or mouth, bruising, or heavy bleeding during a woman's menstrual period. It is generally classified in terms of von Willebrand factor levels and the type of functional defect affecting the von Willebrand factor protein. Type 1 disease results from an absolute decrease in the von Willebrand factor protein and is the most common. Type 3 is characterized by nearly absent levels of von Willebrand factor as well as low factor 8 and is the most severe version of von Willebrand disease. In nearly all cases where von Willebrand disease is mild, it often does not

cause any symptoms until a hemostatic challenge, like the removal of teeth. Intracranial hemorrhage as the presenting finding of severe von Willebrand disease is extremely rare (upper limit of probability of 1 per 7.5 million people).⁵³

Mild congenital platelet disorders include Quebec platelet disorder, the MYH9-related disorders, Scott syndrome, Hermansky-Pudlak syndrome, Chediak-Higashi syndrome, and Wiskott-Aldrich syndrome. Most bleeding with these disorders is mild and manifests as excessive bruising or menorrhagia (heavy menstrual periods). The probability of mild platelet disorders causing intracranial hemorrhage is also unknown but is likely very low given the typical clinical manifestations.

Vitamin K is a fat-soluble vitamin necessary for synthesis of 4 clotting factors (II, VII, IX, and X), as well as the anticoagulation proteins C and S. Early onset vitamin K deficiency bleeding presents within 24 hours of birth and is usually seen in infants of mothers taking drugs that inhibit vitamin K such as anticonvulsants, antituberculosis drugs, and cephalosporins. Early-onset presentation is often with severe scalp, intracranial, and intra-abdominal hemorrhage. Classical vitamin K deficiency bleeding occurs between 24 hours and 7 days of life and typically involves gastrointestinal, umbilical, and circumcision site bleeding.⁵⁴ Late-onset vitamin K deficiency presents between 2 and 12 weeks and is associated with exclusive breast-feeding. Significant intracranial hemorrhage can be present, resulting in vomiting, bulging fontanelles, and seizures.⁵⁵ Retinal hemorrhages are rarely reported as a clinical finding in infants with vitamin K deficiency bleeding, but there have been reports nevertheless.⁵⁶

Factor XIII deficiency, a rare autosomal recessive coagulopathy, is the last enzyme in the coagulation/thrombosis cascade and is essential in forming and stabilizing clots by cross-linking fibrin and preventing degradation of the fibrin clot. The most common and classic presentation of factor XIII deficiency is delayed or prolonged umbilical cord bleeding. Other presentations include soft tissue bruising, intramuscular hemorrhage, and rarely, intracranial hemorrhage.⁵⁷ Importantly, routine coagulation studies such as prothrombin time, activated partial thromboplastin time, and platelet function tests are normal in congenital factor XIII deficiency. Specific factor XIII assays must be used to identify factor XIII deficiency.

Metabolic Diseases

Two metabolic diseases, glutaric aciduria type I and Menkes disease, are of particular consideration in cases of suspected child abuse. Glutaric aciduria type I is caused by a deficiency of glutaryl-CoA dehydrogenase, an enzyme involved in the metabolism of amino acids lysine, hydroxylysine, and tryptophan. The enzyme deficiency eventually results in severe dystonia caused by basal ganglia neuronal loss. Initial clinical manifestations, however, can be very subtle and nonspecific, presenting as hypotonia, feeding difficulties, irritability, and an enlarging head circumference. The undiagnosed, untreated infant can then present with encephalopathy triggered by, or in conjunction with, a mild illness.

Glutaric aciduria type 1 can be associated with acute subdural hemorrhage, chronic subdural collections, and retinal hemorrhages and can be mistaken for abusive head trauma.^{58,59} However, glutaric aciduria does not predispose patients to fractures. Neuroimaging features can include frontotemporal atrophy, subdural fluid collections, and characteristic widened sylvian fissures.⁶⁰ All states in the United States presently include glutaric aciduria type 1 on the routine newborn screen. Urine organic acid analysis is diagnostic with increased 3-hydroxyglutaric acid and/or increased glutaric acid. If urine organic acids do not confirm the diagnosis and clinical suspicion remains high, other testing such as enzyme assays and molecular analysis of the glutaryl-CoA dehydrogenase gene can be performed.

Menkes disease, also known as Menkes kinky hair syndrome, is an X-linked recessive neurodegenerative disorder caused by a mutation in the copper transport gene, causing copper deficiency, decreasing the activity of copper-dependent enzymes. Typical clinical features include early, severe neurologic deterioration, characteristic thin, brittle, and hypopigmented hair that twists upon itself, and connective tissue disorders. Menkes disease can be confirmed with a low serum ceruloplasmin level. Other findings described in Menkes disease are subdural hemorrhage and metaphyseal changes mimicking classic metaphyseal lesions. Retinal hemorrhages, however, are not a commonly described feature of Menkes disease.⁶¹

Benign Extra-axial Fluid of Infancy/Benign External Hydrocephalus

Infants with an isolated large or rapidly increasing head circumference may be referred to pediatric neurologists for evaluation. Benign extra-axial fluid of infancy/benign external hydrocephalus is a self-limiting condition commonly defined as a large or rapidly growing head circumference in infants, combined with enlarged subarachnoid spaces and no or only moderate ventricular enlargement.⁶² Additionally, there is an absence of clinicoradiologic features of increased intracranial pressure. The most common pathophysiological theory for this disorder is that immature arachnoid villi are not able to absorb the cerebrospinal fluid that is produced continuously. Other reported symptoms of this condition include developmental delay, hypotonia, irritability, and seizures. An increased risk of subdural hemorrhage with minor trauma may exist in these children.⁶³ The enlarged frontal spaces can be confused for chronic subdural hematomas, particularly on CT imaging, but should be readily distinguishable on MRI.

Although benign external hydrocephalus is a consideration in certain cases of suspected abuse, there are features that distinguish this disorder from many cases of abuse. First, unlike many cases of abuse (as will be discussed further below), this is a benign, self-limited condition that spontaneously resolves in early childhood. Second, there have been no literature reports of an associated finding of severe hemorrhagic retinopathy. Finally, there have been no reports of fractures associated with this disorder.

Special Considerations for Child Neurologists

Because seizures are a frequent finding associated with head trauma, child neurologists are often asked whether seizures cause subdural and/or retinal hemorrhages. Seizure activity, in-and-of itself, has not been reported to cause subdural hemorrhages. However, seizures that may result in falls or other trauma have the potential to result in subdural hemorrhages, as a consequence of the related trauma. Curcoy et al⁶⁴ prospectively studied the incidence of retinal hemorrhages in children under the age of 2 who were admitted to their institution with "first convulsions." Of 189 children examined with direct ophthalmoscopy by an ophthalmologist, none were found to have retinal hemorrhages. Similar findings have been reported by Meizahav et al⁶⁵ and Sandramouli et al.⁶⁶ Thus, to date, no well-designed study has found retinal hemorrhages, especially severe retinal hemorrhages, to have been associated with seizures.

Another consideration recently raised in legal circles is the theory of hypoxia-related subdural hemorrhages. In summary, multiple lines of research (eg, research in drowning victims,⁶⁷ research in cardiopulmonary resuscitation victims⁶⁸) have failed to identify an association of subdural hemorrhages with hypoxic injury. When observed, the intracranial hemorrhage presentation most consistent with hypoxic-ischemic injury is intraparenchymal hemorrhage. Finally, multiple studies have conclusively demonstrated that hypoxia is not a putative factor in causing severe retinal hemorrhages.⁶⁹ Additionally, other proffered theories, such as coughing (pertussis),⁷⁰ vaccinations, or increased abdominal pressure from vomiting⁷¹ have been studied and have also failed to demonstrate either the subdural or severe retinal hemorrhages commonly seen in abusive head trauma.

Management and Outcomes

Infants and young children with abusive head injury are generally treated in the pediatric intensive care unit for airway stabilization, ventilator support, and management of intracranial pressure to mitigate secondary insults from hypoxia, mass effect, cerebral edema, and seizures. Seizures are common and early posttraumatic seizure prophylaxis is recommended. Surgical strategies to decrease intracranial pressure include decompressive craniectomy, subduroperitoneal shunt, or subduroexternal drainage.

Well-designed comparative studies have demonstrated a statistically significant worse outcome (for both physical and cognitive functioning) for abusive head trauma patients over accidental trauma patients. Morbidity and mortality rates for abusive head trauma are extraordinarily high. Approximately 15% to 23% of all recognized cases of abusive head trauma die before or shortly after presentation for medical care.²⁰ In a Swiss Abusive head trauma follow up study, Fanconi and Lips documented that only 36% of Abusive head trauma patients had a "good outcome," and 64% were either moderately or severely disabled.⁷² Similar results were reported by Duhaime et al.⁷³

Future Research

Within the last 2 decades, tremendous strides have been made in abusive head trauma research. In the realm of biomechanics, improvements in the biofidelity of anthropomorphic test devices have refined biomechanical data on head and neck injury in infants. Finite element modeling has been utilized to investigate parameters of physical forces surrounding fractures.⁷⁴ Although biomechanical research has yet to provide a definitive answer to several biomechanical questions surrounding abusive head trauma (such as whether shaking can or cannot cause subdural hemorrhages, and whether neck injury is necessary in cases of violent shaking), the biomechanical literature, in spite of its flaws, is useful and informative. Additionally, exciting research has emerged into the use of serum or cerebral spinal fluid biomarkers to aid in the diagnosis of abusive head trauma. Over the past decade or so, biomarkers, such as neuron-specific enolase and myelin basic protein, were identified by Berger et al⁷⁵ to be potentially useful as screening tools to identify brain injury in infants with nonspecific symptoms. Currently, large prospective case-control studies are continuing to investigate the utility of specific biomarkers in diagnosing, monitoring or prognosticating patients with traumatic brain injury or other pediatric neurocritical care conditions.⁷⁶ Finally, large, multicenter collaboratives, such as the Pediatric Brain Injury Research Network (PediBIRN) and Examining Siblings to Recognize Abuse (ExSTRA), have been created with the aim of conducting rigorous, evidence-based clinical research on various aspects of pediatric trauma.

Conclusion

Abusive head trauma remains a common pediatric diagnosis. Unfortunately, for various reasons, physicians continue to underrecognize and underdiagnose it. The proper diagnosis of this complex disease requires clinicians to maintain a high index of suspicion, to utilize a multidisciplinary team approach, and to rigorously exclude other etiologies on the differential. Certain symptoms and findings, such as apnea and severe retinal hemorrhages, hold a high specificity and positive predictive value for abusive head trauma. When confronted with these findings in light of an inadequate, evolving or absent trauma history, physicians can diagnose abusive head trauma with a high degree of confidence.

Declaration of Conflicting Interests

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APPENDIX C



FORS

SUPERVISED: FERRO, Heidi



Home	DOC Number:	SID Number:	Current Status:	Current Location:
Search For An Offender	891886	WA21128394	SUPERVISED	East Vancouver

Offender

Offender Movement History

General Information	CCO:	CCO Telephone:	CCO Location:
Confidential Offender Information	Gunn, Sadie	(360) 449-7663	East Vancouver
Conviction Information (Law Enforcement Only)	Latest Projected Release Date:	Last Release From:	
Board, Court and DOC Imposed Conditions		Washington Corrections Center For Women	

Offender Movement History

DOC Sex / Kidnap Offender Registration Information

Movement History

Status	Date	Status	Date	Status	Date
SUPERVISED	7/30/2014 -	PRESENT			
PRISON	2/24/2006 -		7/30/2014		

Help

FORS User's Guide (.pdf)