IN THE SUPREME COURT, STATE OF WYOMING

2018 WY 132

OCTOBER TERM, A.D. 2018

December 3, 2018

JOSEPH SCOTT NIELSEN, Appellant (Defendant), v. THE STATE OF WYOMING, Appellee (Plaintiff).	S-18-0085

Appeal from the District Court of Campbell County
The Honorable Michael N. Deegan, Judge

Representing Appellant:

Office of the State Public Defender: Diane M. Lozano, State Public Defender; Kirk A. Morgan, Chief Appellate Counsel; Desiree Wilson, Senior Assistant Appellate Counsel. Argument by Ms. Wilson.

Representing Appellee:

Peter K. Michael, Wyoming Attorney General; Christyne M. Martens, Deputy Attorney General; Caitlin F. Harper, Senior Assistant Attorney General; Rebecca J. Zisch, Assistant Attorney General. Argument by Ms. Zisch.

Before DAVIS, C.J., and BURKE*, FOX, KAUTZ, and BOOMGAARDEN, JJ.

**** Justice Burke retired from judicial office effective October 8, 2018, and, pursuant to Article 5, § 5 of the Wyoming Constitution and Wyo. Stat. Ann. § 5-1-106(f) (LexisNexis 2017), he was reassigned to act on this matter on October 9, 2018.***

FOX, Justice.

[¶1] A jury found Joseph Nielsen guilty of first-degree felony murder for causing the death of CF, a 3-year-old child. He appeals from his judgment and sentence, alleging that the district court committed plain error by permitting expert medical testimony opining on his guilt and credibility and by allowing improper cross-examination of his sole medical expert. We affirm.

ISSUES

[¶2] Mr. Nielsen raises three issues on appeal which we rephrase:

1. Has Mr. Nielsen demonstrated plain error in testimony elicited from medical experts concerning a diagnosis that has a distinct legal meaning?

2. Has Mr. Nielsen demonstrated plain error in testimony elicited from medical experts concerning inconsistencies between Mr. Nielsen's proposed mechanism of injury and their observations of CF's injuries?

3. Has Mr. Nielsen demonstrated plain error in the State's cross-examination of Dr. Young?

FACTS

[¶3] Mr. Nielsen moved in with Crystal Hudson and her two young children shortly after they began dating in September 2015. The four of them lived together at Ms. Hudson's apartment until they were evicted in early August 2016. Three days after they moved into a new trailer home in Gillette, Wyoming, Ms. Hudson woke up at around 10 in the morning and checked on her children. She brought both her daughter, two-year-old SW, and her son, three-year-old CF, into the room she and Mr. Nielsen shared and asked him if they could get doughnuts for breakfast. They decided that Ms. Hudson would go get the doughnuts. As she was leaving, CF attempted to follow her out of the trailer home and became upset when Mr. Nielsen brought him back inside.

[¶4] Ms. Hudson was about to check out at the grocery store when Mr. Nielsen called her and told her CF had fallen while trying to jump off the coffee table. Ms. Hudson heard "weird, . . . heavy breathing" in the background and told Mr. Nielsen to call 911. Mr. Nielsen called 911, and Officer Jeremy Traverse was dispatched to the trailer home. When Officer Traverse arrived, he saw CF lying on the couch. CF had a pulse, but his eyes were not reactive, he had urinated on himself, his breathing sounded like "snoring or gurgling," and he was "posturing."[1] Officer Traverse adjusted CF on the couch and held

[1] Posturing is an involuntary movement of the hands that occurs with severe head trauma.

him in a "C-Spine" position, which involves straightening the spine and holding the head to prevent further injury. As he was holding the C-Spine position, Officer Traverse noticed a bruise on CF's sternum, "a bruise on the inside of his left arm, and other small bruises on his abdomen," "marks and bruises" on his face, and blood inside his mouth.

[¶5] After paramedics arrived and began caring for CF, Officer Traverse spoke with Mr. Nielsen. Mr. Nielsen told him that he had been down the hallway near the bathroom when he saw CF standing on the coffee table. Mr. Nielsen told CF "no" and "[CF] then jumped and landed on [a] dollhouse, fell over it, and then the dollhouse fell on top of him." Mr. Nielsen believed CF had hit his chest on the dollhouse and that CF had gone "headfirst onto the carpet" before the dollhouse fell on him. When Mr. Nielsen moved the dollhouse, he saw that CF was "not acting normally," "breathing differently," and "making weird movements." Mr. Nielsen said he had carried CF to the couch and splashed cold water on CF's cheek, but he did not respond.

[¶6] When CF arrived at the hospital, the paramedics told hospital staff that CF had reportedly jumped off a coffee table, flipped over a dollhouse, and hit his head on the ground. Emergency-room physician Dr. Theodore Lawson observed that CF was unconscious, non-responsive to stimulation, and that one of his pupils was larger than the other, indicating that brain-swelling was putting pressure on his optic nerve. Dr. Lawson ordered an immediate CT scan, which he testified showed that CF had a skull fracture,[2] a subdural hematoma, and several rib fractures[3] in various stages of healing. Dr. Joseph John Lawrence, the radiologist who interpreted CF's CT scan, testified that subdural hematomas "are unquestionably always the result of trauma" usually caused by motor vehicle accidents and "physical trauma, sometimes." Dr. Lawson testified similarly that subdural hematomas normally occur in "automobile wrecks where people are ejected and hit the ground . . . at highway speeds." He further testified that a subdural hematoma is "a terrible prognosis" and that he did not believe CF would survive. When asked if he found anything suspicious about CF's injuries, Dr. Lawson said:

> [H]e had an abrasion on his head, and he apparently landed on a carpeted floor, which didn't make too much sense to me. He also had some other contusions.
>
> . . . .
>
> The fact that he had jumped off of a coffee table and supposedly hit a dollhouse just didn't conform to the amount

[2] CF's autopsy confirmed that he did not have a skull fracture. Instead, the doctor who performed the autopsy testified that he observed that "one of the sutures which join the bones [of the skull] together . . . looked like it was starting to split . . . most likely from the brain swelling[,]" which can look like a fracture on a CT scan.

[3] The autopsy confirmed only one rib fracture and two areas of bleeding between the ribs.

> of trauma that it would take to produce a skull fracture and a subdural hematoma[.]"

Dr. Lawson asked the Gillette police department to investigate the incident.

[¶7] Dr. Lawson determined that CF's injuries were "not something [they could] deal with in the ER." An air ambulance service transported CF to Children's Hospital Colorado, where several doctors, including Dr. Denis Bensard, took over CF's care. When asked what his assessment of CF's condition was, Dr. Bensard responded:

> My assessment was that he was a young child that had suffered serious injuries. On his physical examination . . . we also saw scattered bruising of the face and the chest. . . . And with the history we were provided, [] the constellations of findings made us suspicious that this was nonaccidental trauma.

The State asked Dr. Bensard to define "nonaccidental trauma," to which he responded: "It's inflicted injury." Finally, the State inquired about potential mechanisms of injury for subdural hematomas. Dr. Bensard responded:

> We've studied this area and we've written on this area. Subdural hematoma is the most common pattern of injury we see for abusive head trauma. There are additional studies that indicate that it is very difficult from this height to sustain these types, this severe of an injury. And the bruising that he -- the pattern of bruising he had is very suspicious for abusive trauma.

[¶8] Dr. Gina DeMasellis was the supervising physician in the pediatric intensive care unit of Children's Hospital Colorado when CF arrived there. She testified that she had been told that the mechanism of CF's injury was "a fall from a table." She was "not told the height of a table or any other further details." According to Dr. DeMasellis, the mechanism of injury affects her initial evaluation of a patient and is critical to the process of treatment. In her initial examination of CF, she noticed

> a significant amount of bruising on his forehead and the sides of his head, including his right ear, his cheeks, . . . below his chin, and around his clavicles, . . . his right shoulder, the sides of his chest, as well as the sides of his abdomen, . . . and then bruising down his legs as well. He at this point was not sedated, but his pupils were fixed and dilated, meaning they're not responsive to light.

Dr. DeMasellis testified that the fixed and dilated pupils made her "very concerned" because it indicates that "pressure that is applied to the brain stem may be irreversible. And that this is where we would lose all ability as humans to sense oxygen and carbon dioxide in our bloodstream, so your ability to breathe." She summarized his condition as "a young man who had a severe traumatic brain injury with significant concern for his ability to improve from it[.]" When asked about typical mechanisms of injury producing subdural hematomas, she testified that CF's injuries were "very consistent with motor vehicle collisions, as well as patients who downhill ski, who have an accident with a tree, maybe a pedestrian or someone who is on a bicycle being struck by a vehicle." She was concerned about the possibility of non-accidental trauma because

> [a]nytime a young child comes in with the severity of his brain injury, we would be questioning that as a possibility, just by the subdural and the swelling of the brain as well as the herniation findings.
>
> But in [CF's] case, when I was told the proposed mechanism, knowing the severity of injuries that we found on exam, that heightened my concern, yes.
>
> . . . .
>
> I would say that his subdural is definitely consistent with a very high speed with an abrupt stop injury. I would venture to say that I would find it hard to see enough of a high speed to develop from a 28-inch fall.

[¶9] The State also asked the hospital's pediatric neurosurgeon, Dr. Brent O'Neill, about typical mechanisms of injury resulting in subdural hematomas. He testified:

> With a very large subdural hematoma of the size [CF] had, it is usually a very high speed impact like a high speed motor vehicle crash, a fall from a two- or three-story building, a very high speed impact in sports, skiing. Very rarely in football, but on rare occasions we've seen those from football injuries. And then abusive head injury is a common source in our younger patients.

He was concerned about the reported cause of injury because

> things were most consistent with an abusive head injury. Sort of all the other ways to get that degree of brain injury . . . would

> be from a very high speed, high velocity mechanism. . . . a fall from a several story building or a high speed motor vehicle accident. . . .
>
> But injuries to the extent that [CF had] are really never seen with a low height fall.

[¶10] Four days after he arrived at the hospital, Dr. Carleen Zebuhr declared CF dead. She concluded that his death was "a result of his severe brain injury, part of which was subdural hematoma, and the resultant . . . swelling that the brain had, as demonstrated by the increased pressure in the brain." Dr. Zebuhr testified that "[i]n pediatric patients, the most common mechanism [for subdural hematomas] would be trauma, so something like a car accident or that type of thing." She was concerned the mechanism of injury was not as reported and that "anytime . . . that we have concerns for either nonaccidental trauma, or even if there are things that don't really make sense about the history and we have a concern for potential abuse, we consult [the hospital's Child Protection Team].

[¶11] The State called pediatric nurse practitioner Denise Abdoo, who was a member of the hospital's Child Protection Team when CF was admitted. Nurse Abdoo spoke with CF's mother about his medical history and learned that CF had allegedly jumped off a coffee table and injured himself. She also performed a physical examination of CF. The State asked her a series of questions about her diagnosis and how she arrived at it:

> Q. And you had indicated as part of your job with the Child Protection Team, you make diagnoses of patients; is that right?
>
> A. Yes, sir.
>
> Q. And in making those diagnoses, you take into account the history as provided?
>
> A. Yes, sir.
>
> Q. You take into account radiology?
>
> A. Yes, sir.
>
> Q. And any labs that are done?
>
> A. Yes, sir.
>
> Q. Generally speaking, you collaborate; is that right?

A. So we work collaboratively, and then I ultimately make my personal diagnosis.

Q. And did you make a diagnosis for [CF]?

A. Yes, sir.

Q. Okay. And what was that diagnosis?

A. My diagnosis was that [CF] had multiple bruising, or bruises in multiple planes of his body. He had brain swelling, also called cerebral edema, as well as subdural hemorrhage, which is bleeding around the brain. He had a fracture of his right mandible, or the jaw, as well as two rib fractures, one was acute, or new, and one was healing. And that that constellation of injuries was consistent with child physical abuse, or non-accidental trauma, which are synonymous.

Q. So if we hear "non-accidental trauma" that's synonymous with "child physical abuse"?

A. Yes, sir.

Q. Okay. So in your opinion, [CF's] injuries were consistent with child abuse?

A. Yes, sir.

Q. Okay. And you had sort of listed the injuries that went into that. Was, other than the injuries that you've just listed, was there another reason for that opinion?

A. So when we make a medical diagnosis, we look at how that history and that mechanism of injury matches with the injuries that we're seeing. In the history of a short fall off of a coffee table, and then as well as the history that a dollhouse had also fallen on him . . . that didn't make sense in terms of the old and new injury, or the acute and chronic injury, as well as the severity of his injury, or injuries[.]

. . . .

Q. Okay. [Later on,] were you able to do a little more physical evaluation?

A. Yes, sir. On the following day . . . I was able to . . . roll him so I could look at his back[.]

Q. Okay. And on his back left torso were you able to view anything of note?

A. He had three circular brown contusions or bruises.

Q. Okay. What, if anything, did that say to you?

A. That those injuries were . . . additional injuries that aided in my diagnosis of child physical abuse.

. . . .

Q. In the course of your working with [CF], did you become aware of an ophthalmological survey of him that was done?

A. Yes. That's a standard . . . when you have kids who have significant brain injuries[.]

Q. And why is that?

A. Because [in part] as we put together this puzzle of history, physical exam, and ancillary consults, [it] helps us determine whether or not we think the injuries are accidental or non-accidental or child physical abuse.

Q. And were [CF's] eyes such that it helped aid your opinion?

A. Yes, sir.

. . . .

Q. And what, if anything, did the finding on the eyes say to you?

A. That aided in my ability to say that this is child physical abuse as opposed to accidental injury.

[¶12] After Dr. Zebuhr declared CF dead, surgeons performed organ donation surgery, and forensic pathologist Dr. Stephen Cina performed an autopsy. Dr. Cina testified that when he does autopsies, he typically receives a preliminary investigative report that provides the circumstances of death. He stated that this report can be important to his examination because "[k]nowing the circumstances of death will often lead you to the correct manner of death." Dr. Cina had learned "that [CF] had jumped off [a coffee table], hit a plastic dollhouse, then rolled over, then had seizures." In describing CF's injuries, Dr. Cina testified:

> When we cut into the dura, we saw subdural blood, . . . several tablespoons that were distributed over the left side of the top of the brain. Subdural blood is caused when you have little veins that run between the sac, the dura and the surface of the brain. When the brain is rapidly accelerated and decelerated, these little veins tear and you get bleeding over the brain but under the dura. So it's a marker for an acceleration/deceleration injury.
>
> . . . .
>
> When the brain has this kind of violent sheer injury, it responds by swelling up. Eventually, that's what led to brain death in this case, and led to the child becoming an organ donor.
>
> . . . .
>
> The next portion of the head exam was whenever I see brain swelling and subdural hemorrhage I'm thinking of a closed head injury. And a closed head injury in a child is very often due to what's called the shaken baby syndrome or shaken impact syndrome.
>
> These head injuries are often associated with injuries to the eyes, so we remove the eyes . . . . I saw hemorrhage around the optic nerves, which is another finding you see in these kind of deceleration injuries.
>
> . . . .

> The other technique you do when you're dealing with a potential shaken impact baby is . . . [to remove] the whole cervical spinal column . . . . I noticed there was hemorrhage around one of the dorsal nerve roots microscopically, which is another finding you see in these whiplash kind of deceleration injuries.
>
> . . . .
>
> . . . So, with the findings of subdural hematoma, brain swelling, sheering injuries to the inside of the brain, optic nerve hemorrhage and injuries to the cervical spinal cord, it all pointed toward abusive closed head injuries as the cause of death in this case.

[¶13] After Dr. Cina described CF's external injuries, the State asked what his "diagnosis of the cause of death of [CF]" was. He replied: "This child died of closed head injuries due to a physical assault." His opinion as to the mechanism of injury was:

> [T]here was a kind of shaking episode where the head was violently whacked against a firm surface causing a rapid acceleration and deceleration. We have evidence of the impact, we have subdural hemorrhage indicating a sheering, tearing, and we have injury to the deep structures of the brain. So to me, this would be a so-called shaken impact case.

When asked whether his findings were consistent with a jump off a coffee table, Dr. Cina answered:

> No. We're talking about a very significant impact and a very rapid acceleration/deceleration. So the story that was relayed to me of jumping off a coffee table onto a flimsy plastic structure and going over that, to me that's not enough to get this kind of severe impact and acceleration/deceleration.

[¶14] Finally, the State called Dr. Douglas Miller, a neuropathologist who examined CF's brain after Dr. Cina's autopsy. After he described the process he used to examine CF's brain and the injuries he observed, Dr. Miller testified that his "opinion as to the nature of the trauma that CF suffered" was that "[t]his is severe nonaccidental head trauma, blunt head trauma." He testified that, based on

> 33 plus years of doing this, plus knowing the literature . . . , my training and so forth, I know that these kinds of injuries are

> associated with abusive head trauma, or with severe witnessed accidents, such as a child in a car accident unrestrained who's thrown from the car/vehicle.
>
> But absent those kinds of circumstances, this is produced by abusive head trauma. It is not produced by any natural disease, and it is not produced by minor accidents such as a child falling down, or from the circumstances suggested in the initial investigator report that Dr. Cina talked about . . . . There's no way that the description of standing on the table, jumping off, hitting the dollhouse and all of that could account for these injuries.

When asked to clarify his opinion about the reported mechanism of injury on redirect, Dr. Miller testified: "It's not possible. The height of the dollhouse is such that from falling over the top of that to the floor is not going to give sufficient force to cause these injuries." Following Dr. Miller's testimony, the State rested its case.

[¶15] Mr. Nielsen testified on his own behalf and called one expert witness, Dr. Thomas Young. Dr. Young testified that he is a certified forensic pathologist who "makes [his] services available to" people who have "a question or an issue that they want to have an expert [in the field of forensic pathology] look at[.]" Regarding CF's case, he described the science on acceleration and deceleration injuries and subdural hematomas as "a hypothesis" or " a hunch" that is subject to "a lot of controversy." To support that assertion, Dr. Young referred to a 2001 article by Dr. John Plunkett that appeared in The American Journal of Forensic Medicine and Pathology. The study examined 18 cases in which children fell short distances and sustained lethal injuries. Dr. Young also discussed a study, "Biomechanics of Short Falls in Children," which indicated "there can be accelerations that reach the lethal head injury threshold with as little as a two-foot fall on the head."

[¶16] Dr. Young testified that Mr. Nielsen's account of what happened to CF was consistent with CF's injuries. In particular, he believed CF's subdural hematoma was consistent with Mr. Nielsen's account because "[w]ith a very, very short impact like this, you can develop a lot of acceleration." He believed that a fall like the one Mr. Nielsen described could result in "an energetic blow to the top of [CF's] head sufficient to damage and injure the head[.]" When asked "whether [CF's] injuries would require the kind of force from a 30 to 60 mile an hour vehicular accident," Dr. Young responded:

> That doesn't fit at all . . . [because] looking at [CF] you don't see any kind of visible damage like you would see in a sudden stop at 30 or 60 miles an hour. You see a child that is behaving in an abnormal fashion, but his outer surface is intact. It

> doesn't look like a kid that's hit either the inside of a vehicle or even a wall at 30 to 60 miles an hour. It doesn't fit.

[¶17] On cross-examination, Dr. Young testified that he had not performed an autopsy since 2011, that between 2006 and 2011 he had performed about 50 autopsies for clients, and that he had not performed an autopsy on a three-year-old child since before 2007. He also testified that he did not review any microscopic slides of CF's eyes or brain, that he did not prepare a written report of his findings, and that he did not consult a neuropathologist about CF's case. The State questioned Dr. Young about the Plunkett study he had referenced. Dr. Young admitted that the study was controversial and acknowledged that the cases cited in the study were different from CF's case in some ways. He also acknowledged the study's limitations, including: 1) six of the 18 falls it examined were not witnessed; 2) the exact height of the falls could only be determined in ten cases; 3) a minimum impact velocity sufficient to cause fatal brain injury could not be inferred from the study; and 4) the study could not state the probability that an individual fall would have a fatal outcome.

[¶18] Dr. Young also testified on cross-examination that he had opened a forensic pathologist consulting business in 2006. The State asked him if he was "a professional witness in criminal cases," and Dr. Young responded: "If called on to testify, I'll do that. I'm not somebody who's going to doctor my testimony in order to please a client, if this is what you're inferring." However, Dr. Young agreed when asked whether "your profession[,] how you get by and how you make money [is by] testifying and providing consultation?"

[¶19] The State asked him how many times he had testified as a defense expert in cases involving infant deaths and identified some of those cases. During this line of questioning, the State asked whether Dr. Young had testified as an expert in *State of Kansas v. Jessica Dawn Harber*. When he said that he had, the State asked:

> [D]id the District Court state, in reference to your testimony [in *Jessica Dawn Harber*], that it had never experienced a witness and expert so adamant, so unwilling to accept anything from any other professional in a case. I'm not sure that Dr. Young would agree with the State's expert that day is light and night is dark. I think he was so determined to disagree here, and it was very apparent it colored his testimony such that the Court did not find him worthy of belief.

Dr. Young responded: "That's what that Judge said, yes."

[¶20] The State also asked whether Dr. Young had been precluded from testifying as a defense expert in *State of Kansas v. Christopher Lyman*. Dr. Young said he had been precluded from testifying in that case, and the following exchange occurred:

> Q. And was a subsequent Order prepared for that case that recognized, or set forth the Court's findings?
>
> A. I never read such an Order. I'm not aware of it.
>
> . . . .
>
> Q. So you do not know whether or not the Court had noted in its Order that it believed that Dr. Young used junk science?
>
> A. I'm not aware of that.

[¶21] Following Dr. Young's testimony, Mr. Nielsen rested his case. During closing argument, the State reiterated the testimony of the various doctors it had called. In particular, the State repeated Dr. Bensard's testimony that CF's injuries were the result of "nonaccidental trauma"; Dr. O'Neill's testimony that the types of injuries CF had are caused by a "[h]igh-speed crash, two- to three-story fall, skiing, or abusive head trauma"; and Dr. Miller's testimony that this was "inflicted injury." Referring to Nurse Abdoo's testimony, the State argued:

> She consults with the discipline, and she doesn't mince words. "This is child physical abuse." The doctors tend to like to use that sort of soft term, nonaccidental trauma. She tells you [this is] child physical abuse. Synonymous, same thing. So those doctors that say nonaccidental trauma, this is what they're saying.

[¶22] The jury found Mr. Nielsen guilty of murder in the first degree. Specifically, it found Mr. Nielsen had "intentionally inflict[ed] physical injury" on CF; "recklessly inflict[ed] physical injury" on CF; and committed "the underlying crime of child abuse." The district court sentenced Mr. Nielsen to life imprisonment according to law. Mr. Nielsen timely appealed.

STANDARD OF REVIEW

[¶23] Mr. Nielsen argues that a number of the State's expert witnesses impermissibly offered testimony bearing on his guilt and credibility. He also argues that the State improperly presented extrinsic evidence of a collateral matter during its cross-examination

of Dr. Young. Mr. Nielsen failed to object to any of these alleged errors at trial; thus, we review for plain error. *Brown v. State*, 2014 WY 104, ¶ 19, 332 P.3d 1168, 1174-75 (Wyo. 2014). To establish plain error, Mr. Nielsen must show that "(1) the alleged error clearly appears in the record; (2) the alleged error clearly and obviously violates a clear and unequivocal rule of law; and (3) the alleged error affects a substantial right" to his material prejudice. *Cole v. State*, 2017 WY 87, ¶ 9, 399 P.3d 618, 620 (Wyo. 2017); *see also Brown*, ¶ 19, 332 P.3d at 1175. To satisfy the prejudice element of the plain error standard, a defendant must demonstrate a reasonable probability that he would have obtained a more favorable trial verdict without the error. *Larkins v. State*, 2018 WY 122, ¶ 94, 429 P.3d 28, 50 (Wyo. 2018).

DISCUSSION

I. Has Mr. Nielsen demonstrated plain error in testimony elicited from medical experts concerning a diagnosis that has a distinct legal meaning?

[¶24] Mr. Nielsen argues that the State improperly elicited testimony opining on the legal conclusion of Mr. Nielsen's guilt, resulting in material prejudice. He argues that the testimony of some of the State's medical experts repeatedly and directly told the jury that the contested element of child abuse had been proven. This, he argues, improperly invaded the province of the jury because it took the determination that child abuse caused CF's death out of the jury's hands, instead placing it in the hands of experts.

[¶25] The State responds that the challenged testimony was proper because it did not present a direct opinion on Mr. Nielsen's guilt; rather, it concerned a medical diagnosis—an area that required special expertise to help the jury understand and resolve the factual issues of the case. The State concedes that the alleged error appears clearly in the record and, if improper, was prejudicial.

[¶26] It is well established that "it is the jury's role to determine the guilt of the accused and a witness may not express an opinion as to his guilt." *Fennell v. State*, 2015 WY 67, ¶ 24, 350 P.3d 710, 719 (Wyo. 2015) (citing *Carter v. State*, 2012 WY 109, ¶ 11, 282 P.3d 167, 170 (Wyo. 2012); *Ogden v. State*, 2001 WY 109, ¶ 21, 34 P.3d 271, 276 (Wyo. 2001); *Whiteplume v. State*, 841 P.2d 1332, 1338 (Wyo. 1992); *Bennett v. State*, 794 P.2d 879, 881 (Wyo. 1990); *Stephens v. State*, 774 P.2d 60, 66 (Wyo. 1989), *overruled in part on other grounds by Large v. State*, 2008 WY 22, ¶ 30, 177 P.3d 807, 816 (Wyo. 2008)). Although it is proper under W.R.E. 704 for an opinion to "embrace[] an ultimate issue to be decided by the trier of fact," it is the jury's duty to resolve the factual issues and ultimately determine guilt or innocence. *Cureton v. State*, 2007 WY 168, ¶ 10, 169 P.3d 549, 551 (Wyo. 2007) (citation omitted). The inquiry as to whether expert testimony is proper "must focus upon whether the expert testimony serves to assist the jury in resolving the factual issues before it." *Stephens*, 774 P.2d at 67. "Opinion testimony about guilt does not address areas that assist the jury in resolving factual issues." *Bennett*, 794 P.2d at

881. However, "[t]estimony need not be excluded unless it contains 'an actual conclusion about the guilt or innocence of the accused party,'" *Carter*, ¶ 11, 282 P.3d at 170 (quoting *Ogden*, ¶ 23, 34 P.3d at 277), and a witness may interpret evidence "even though that interpretation may be important in establishing an element of the crime and thus leading to the inference of guilt." *Ogden*, ¶ 23, 34 P.3d at 277 (quoting *Saldana v. State*, 846 P.2d 604, 616 (Wyo. 1993)).

[¶27] We have found improper witness opinions of guilt on several occasions. In *Stephens*, we held witness testimony opining that the victim had been sexually assaulted by the defendant was improper because it "amount[ed] to an opinion that the defendant [was] guilty." 774 P.2d at 66. We also found error in *Bennett*, where an investigating officer testified that, in his opinion, the defendant was a drug dealer, stating "[t]his went well beyond simply summarizing the facts of his investigation by drawing the ultimate conclusion that [the defendant] was guilty." 794 P.2d at 882. Likewise, in *Whiteplume*, we held that a deputy-sheriff improperly offered an opinion of guilt when he testified that he "made a determination that [the victim] had been raped" after listening to her story. 841 P.2d at 1340. More recently, we concluded that a prosecutor elicited improper testimony by asking two witnesses "What happened that day?" after they "had already testified extensively about the facts and circumstances leading up to and following [] meetings between [an] informant and [the defendant]" because it was "clear the prosecutor was soliciting testimony . . . that a drug deal occurred." *Fennell*, 2015 WY 67, ¶ 28, 350 P.3d at 721.

[¶28] In contrast, we have also held that testimony which relates objective information is proper because it assists the jury in resolving factual issues. For example, in *Cureton*, we held that there was no error where an officer "merely informed the jury about the meaning and significance of certain items of physical evidence collected at the scene" because his testimony was offered to aid the jury in understanding factual issues and left the ultimate conclusion to the jury. 2007 WY 168, ¶ 11, 169 P.3d at 551. Similarly, in *Saldana*, we held a DCI agent's "testimony concerning how the papers taken from [a defendant's] bedroom tended to establish prior drug trafficking and [the defendant's] knowledge that [a] package contained cocaine," 846 P.2d at 615, was permissible because the average person "is not knowledgeable with respect to matters involving commerce in cocaine." 846 P.2d at 617. There we acknowledged "the devastating impact a witness perceived to be an expert in a particular field may have when he offers testimony interpreting evidence," but refused to isolate the jury "in some constructive vacuum under the pretext all comment on evidence, no matter how unbiased or neutral it might be, is unfair to the accused." *Id.* Here too, while the challenged expert testimony indeed had a "devastating impact" on Mr. Nielsen's case, it "merely informed the jury about the meaning and significance," *Cureton*, ¶ 11, 169 P.3d at 551, of medical evidence, and we thus hold that the experts did not offer a conclusion as to Mr. Nielsen's guilt.

[¶29] Mr. Nielsen argues that, because conviction under Wyo. Stat. Ann. § 6-2-101(a) (LexisNexis 2017) required the State to prove "abuse of a child," expert testimony that "child abuse caused C.F.'s death" invaded the province of the jury. He relies heavily on a federal case, *United States v. Scop*, 846 F.2d 135 (2d Cir. 1988). There, the government charged the defendants with mail fraud, securities fraud, and conspiracy and called an investigator for the Securities and Exchange Commission as an expert in securities trading practices. *Id.* at 136, 138. The witness repeatedly and deliberately described the defendants as "active participants and material participants" in the stock manipulation scheme, stating that they "engaged in a manipulative and fraudulent scheme in furtherance of that manipulation." *Id.* at 138. In doing so, the witness "made no attempt to couch [his testimony] in even conclusory factual statements but drew directly upon the language of the statute and accompanying regulations concerning 'manipulation' and 'fraud.'" *Id.* at 140. The court determined that this testimony invaded the province of the jury because it embodied legal conclusions. *Id.* at 139. Mr. Nielsen argues that his case is "very similar" to *Scop* because the State's witnesses "borrowed words directly out of the statutes . . . used to decide his guilt," and the jury could not differentiate between the medical and legal meanings of child abuse.

[¶30] However, a critical distinction between this case and *Scop* is that the testimony there was not helpful to the jury in carrying out its legitimate function because it sought only to supply the jury with legal conclusions—that "manipulation" and "fraud" had occurred. 846 F.2d at 139-40. In contrast, expert testimony interpreting medical evidence assists the jury in understanding an area that is "generally beyond common experience." *Hayes v. State*, 935 P.2d 700, 704 (Wyo. 1997) ("A layman observing the same medical evidence as [the doctor] observed would have difficulty knowing how to interpret the data.").

[¶31] In *Sanchez v. State*, we said "[p]rejudice does not automatically occur when a term or phrase is used in a question or argument that may have a meaning other than its legal meaning." 2006 WY 116, ¶ 43, 142 P.3d 1134, 1145 (Wyo. 2006) (citing *Armstrong v. State*, 826 P.2d 1106, 1113 (Wyo. 1992)). There, a doctor on the Child Protection Team of Children's Hospital Colorado testified during the defendant's trial for first-degree murder causing the death of a child. *Id.* at ¶¶ 1, 6, 36, 142 P.3d at 1137, 1144-46. He described the evidence he relied on in determining that the child's death was the result of "non-accidental" trauma and stated that his medical diagnosis was "child abuse . . . fatal, physical abuse of a child." *Id.* at ¶ 43, 142 P.3d at 1145. We found no error in use of the phrase "child abuse" to explain his medical diagnosis, reasoning that "[w]hen a term or phrase is not used in its strict legal sense, it may be allowed," so long as it is helpful to the jury. *See id.* Our holding in *Sanchez* makes it impossible to conclude that the challenged testimony violated a clear and obvious rule of law. *See also Punches v. State*, 944 P.2d 1131, 1135-36 (Wyo. 1997) (finding that testimony stating physical injuries were "corroborative of sexual abuse" was helpful to the jury and did not directly express an opinion that the defendant was guilty of sexual abuse); *State v. Smallwood*, 955 P.2d 1209, 1220-21 (Kan. 1998) (holding that forensic pathologist testimony that the victim died of

child abuse did not invade the province of the jury because she was not testifying as to the defendant's guilt or innocence); *State v. Smith*, 877 So. 2d 1123, 1133 (La. Ct. App. 5 Cir. 2004) (finding no error in allowing physician to testify that child's injuries were "abuse"); *Commonwealth v. Roderiques*, 968 N.E.2d 908, 919-20 (Mass. 2012) (holding that physician's testimony that a child's injuries were "not accidental" was permissible because it "assist[ed] the trier of fact in understanding evidence or determining facts in areas where scientific, technical, or other specialized knowledge [was] helpful.").

[¶32] Further, the medical experts here did not tailor their testimony specifically to Wyo. Stat. Ann. § 6-2-101(a); rather, they drew their language from medical diagnoses arrived at from observation and interpretation of CF's injuries. Abusive Head Trauma (AHT) is:

> "[T]hose constellations of injuries that are caused by the directed application of force to an infant or young child, resulting in physical injury to the head and/or its contents." Commonly observed injuries include scalp injury (e.g., bruises, lacerations/abrasions, swelling), skull fractures, intracranial (inside the skull) hemorrhage (i.e. [subdural hematoma], subarachnoid hemorrhage, epidural hemorrhage, intraparenchymal hemorrhage), diffuse axonal injury, cerebral edema (brain swelling), encephalopathy, cervical spine fractures, cervical spinal cord injury/hemorrhage, retinal hemorrhages, rib fractures, and long bone fractures. . . . [T]he most common injuries associated with [abusive head trauma] are [subdural hematomas] and [retinal hemorrhages].

Dr. Sandeep Narang, M.D., J.D., *A Daubert Analysis of Abusive Head Trauma/Shaken Baby Syndrome*, 11 Hous. J. Health L. & Pol'y 505, 570 (2011) (citing Antonia Chiesa & Ann-Christine Duhaime, *Abusive Head Trauma*, 56 Pediatrics Clinics N. Am. 317 (2009)). Various terms are used synonymously with AHT: "'Whiplash Shaken Baby Syndrome,' 'Whiplash Shaken Infant Syndrome,' 'Shaken Impact Syndrome,' 'Inflicted Childhood Neurotrauma,' 'Non-Accidental Trauma,' and others." *Id.* at 505. Regardless of the specific term used to describe it, "AHT has long been recognized as a clinically valid medical diagnosis." *Id.* (citing Al-Holou et al., Nonaccidental Head Injury in Children: Historical Vignette, 3 J. Neurosurgery Pediatrics 474, 474 (2009)). Numerous international and domestic medical organizations acknowledge its validity as a medical diagnosis. *Id.* at 574-75 (collecting organizations and articles). Several courts have done the same. *People v. Martinez*, 74 P.3d 316, 323 (Colo. 2003) ("[W]e assume, as it is not in dispute, that the scientific principles of shaken-impact syndrome and subdural hematomas resulting from extreme accidents are reasonably reliable."); *State v. McClary*, 541 A.2d 96, 102 (Conn. 1988) (shaken baby syndrome is generally accepted by medical science); *State v. Torres*, 121 P.3d 429, 437 (Kan. 2005) (finding physician testimony that infant's injuries were the result of intentional "shaken baby syndrome," and inconsistent with falling off a

chair sufficient for felony murder conviction); *State v. Leibhart*, 662 N.W.2d 618, 626-27 (Neb. 2003) (expert testimony on shaken baby syndrome admissible).

[¶33] Arriving at an AHT diagnosis "is no different than arriving at any other clinical medical diagnosis." Dr. Narang, *supra*, at 571-72. It involves observing initial presenting symptoms; obtaining a comprehensive medical history, including a detailed history of the events surrounding current symptoms; and a detailed, entire-body physical examination. *Id*.

> After obtaining a history and performing a physical examination, the clinician considers the various diagnoses that might explain the clinical presentation. This is also known as the "differential" (list of possible causes). . . .
>
> . . . [E]specially in AHT cases, the clinician engages in a multi-disciplinary process of attaining additional information. The clinician cooperates with multiple agencies (social services and law enforcement) and multiple medical disciplines (radiology, ophthalmology, neurosurgery, etc.) to obtain additional history and clinical information. . . . Once having received the additional information, the clinician synthesizes that information with the known pathophysiologic processes of the human body, the evidence-based statistical information on the injuries, and the clinician's own experience in patient care. . . .
>
> . . . .
>
> . . . Through the attainment of additional clinical information[,] the physician goes through an inferential and deductive process of hypothesis refinement until a consistent "working diagnosis" is achieved. . . . .
>
> Many courts have held that "differential diagnosis" methodology is a reliable method of ascertaining medical causation.

Id. at 572-73, 584-85; *see also Wise v. Ludlow*, 2015 WY 43, ¶ 50, 346 P.3d 1, 14 (Wyo. 2015) ("There is no question that differential diagnosis is a sufficiently reliable methodology to satisfy the *Daubert* [*v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993)] test."). Here, the State's medical experts properly explained their diagnoses of CF's injuries and how they arrived at their conclusions.

[¶34] Mr. Nielsen describes Nurse Abdoo's testimony as "particularly harmful." But her testimony provides ample support for our determination that the State's medical experts properly informed the jury about the meaning and significance of medical evidence using accepted medical methodology. When the State asked her how she makes a diagnosis, she testified that she considers the patient's history, medical test results, and her observations of the patient. She consults with multiple medical disciplines via the Child Protection Team. "[T]his puzzle of history, physical exam, and ancillary consults . . . helps [her] determine whether . . . [the] injuries are accidental or non-accidental or child physical abuse." She considers "how that history and that mechanism of injury matches with the injuries that [she's] seeing" and rules out mechanisms of injury that "[don't] make sense." Nurse Abdoo followed this procedure in CF's case and made a medical diagnosis that the "constellation of injuries was consistent with child physical abuse, or non-accidental trauma, which are synonymous." Although this testimony was certainly harmful to Mr. Nielsen's defense, we think it apparent that Nurse Abdoo opined on her medical, rather than legal, conclusions.

[¶35] The record demonstrates that the State's medical experts informed the jury about the meaning and significance of medical evidence. They used accepted methods of observation, multi-disciplinary information gathering, and inferential and deductive reasoning to arrive at their diagnoses. That those diagnoses happened to contain terms with distinct legal meanings does not equate to expressing an opinion as to Mr. Nielsen's guilt. We hold that the district court did not err in permitting the challenged testimony.

II. Has Mr. Nielsen demonstrated plain error in testimony elicited from medical experts concerning inconsistencies between Mr. Nielsen's proposed mechanism of injury and their observations of CF's injuries?

[¶36] Mr. Nielsen also argues that some of the State's medical experts improperly commented on Mr. Nielsen's truthfulness by opining that his account of CF's accident was inconsistent with their observations. The State counters that an expert "may express doubt about a witness's account when the expert links his opinions with other evidence." We hold that the challenged testimony assisted the jury in understanding the factual issues before it and only incidentally called Mr. Nielsen's credibility into question.

[¶37] It is well established "that it is error for an expert witness to comment on the credibility of another witness." *Saldana*, 846 P.2d at 618 (citing *Zabel v. State*, 765 P.2d 357, 360 (Wyo. 1988)). Credibility determinations are exclusively the province of the jury because jurors "are themselves expert in that area," and expert testimony concerning credibility does not assist them. *Zabel*, 765 P.2d at 360. We have found error in cases where testimony sought to evaluate credibility of a witness's disclosure by directly vouching for her credibility. *Seward v. State*, 2003 WY 116, ¶ 27, 76 P.3d 805, 817 (Wyo. 2003); *Whiteplume*, 841 P.2d at 1340 (holding a witness's testimony inferring that he believed the victim impermissible).

[¶38] However, when expert testimony assists the jury in understanding some other aspect of the case and does not involve comment on another witness's truthfulness, it is permissible. *Zabel*, 765 P.2d. at 361. In *Chapman v. State*, we held that "testimony focused on general symptoms common to victims of sexual abuse and how those symptoms related to the victim" permissible because "[t]here was no testimony from the expert that she believed the victim's account[.]" 2001 WY 25 ¶ 20, 18 P.3d 1164, 1173 (Wyo. 2001). Similarly, in *Ogden*, we found no error where an officer testified that a group of young witnesses' "versions of what happened were consistent with one another and that he relied upon the statements in determining that sufficient probable cause existed" because "he at no time stated that he believed the young witnesses were credible." 2001 WY 109, ¶ 29, 34 P.3d at 278. Finally, in *Mersereau v. State*, we held a prosecutor's comment in opening statement that "After telling [a deputy] several times he wasn't being truthful, [the deputy] kept asking, and ultimately the defendant told him he did [it]" permissible, because "it was based upon what the evidence was going to show—specifically statements made by the [defendant] during the interview where he admitted he was not being truthful." 2012 WY 125, ¶ 48, 286 P.3d 97, 117 (Wyo. 2012).

[¶39] This case is comparable to *Chapman*, *Ogden*, and *Mersereau*. Here, the State's medical experts based their opinions that Mr. Nielsen's account was inconsistent with CF's injuries on their observations, their experience with those types of injuries, and medical tests. *See supra* ¶¶ 6-14. They also did not directly comment on Mr. Nielsen's truthfulness. Further, their interpretation of medical evidence assisted the jury in understanding another aspect of the case, namely how injuries like CF's normally occur. Their testimony may have had "the collateral or incidental effect of . . . denigrating [Mr. Nielsen's] statements," but "all testimony may affect the credibility of other testimony in one way or another." *Saldana*, 846 P.2d at 618. Where, as here, expert testimony is linked to objective evidence, assists the jury in understanding that evidence, and avoids directly commenting on another witness's credibility, there is no error.

III. Has Mr. Nielsen demonstrated plain error in the State's cross-examination of Dr. Young?

[¶40] Mr. Nielsen argues that the State asked Dr. Young two improper questions on cross-examination. Specifically, he argues that it was error for the State to ask whether, in a previous case in which Dr. Young had served as an expert witness, the district court had said

> that it had never experienced a witness and expert so adamant, so unwilling to accept anything from any other professional in a case. I'm not sure that Dr. Young would agree with the State's expert that day is light and night is dark. I think he was so determined to disagree here, and it was very apparent it

> colored his testimony such that the Court did not find him worthy of belief.

He also assigns error to the State asking Dr. Young whether, in another case in which he was hired as an expert witness, a district court had precluded him from testifying because it found that he used "junk science." According to Mr. Nielsen, these questions violated the "collateral evidence rule" because they constitute a *de facto* presentation of extrinsic evidence on a collateral matter. He argues that the questions resulted in material prejudice to him because "[h]ad the jury believed Dr. Young, they would have found the State failed to provide proof beyond a reasonable doubt that Mr. Nielsen caused C.F.'s death in the course of committing child abuse."

[¶41] The State counters that W.R.E. 608(b) allows such questions so long as the questioner does not contradict the witness's response with extrinsic evidence. It also argues that the W.R.E. 608(b) prohibition on using extrinsic evidence to prove specific instances of conduct does not apply because the questions concerned "Dr. Young's credibility, bias, and character for truthfulness." It argues that "[t]he State's questioning elicited testimony properly exposing Dr. Young's motivation for testifying and any bias which may have tinged his testimony." Alternatively, the State argues that even if the prosecutor violated a clear and unequivocal rule of law in a clear and obvious way, Mr. Nielsen suffered no prejudice because there was "no reasonable possibility the outcome of this trial would have been more favorable to Nielsen if the State had not attacked [Dr. Young's] bias and credibility."

[¶42] "Because the third prong of the plain error test is dispositive, we will begin our analysis by examining whether prejudice resulted[.]" *Pendleton v. State*, 2008 WY 36, ¶ 11, 180 P.3d 212 (Wyo. 2008). Under the plain error standard, the appellant has the burden of demonstrating material prejudice. *Id.* Material prejudice results only when "there is a reasonable probability that the result would have been more favorable to the defendant had the error not occurred." *Larkins*, 2018 WY 122, ¶ 94, 429 P.3d at 50.

[¶43] Over the course of Mr. Nielsen's nine-day trial, the State presented ample evidence that CF's injuries were consistent with child abuse. It presented numerous photographs of CF's injuries and photographs from his autopsy and brain exam. It presented evidence that CF had injuries in various stages of healing throughout his body. It showed that Mr. Nielsen was the only adult with CF when his fatal injuries occurred. Multiple medical experts testified as to their first-hand observations of CF's injuries and opined that Mr. Nielsen's account was not consistent with what they saw. They gave examples of typical mechanisms of injury that would cause such severe brain injuries, none of which matched Mr. Nielsen's proposed mechanism.

[¶44] In response, Mr. Nielsen presented two witnesses: himself and Dr. Young. Mr. Nielsen gave the same account of CF's fall that the State's experts had unequivocally

rejected. On cross-examination, the State attacked Dr. Young's credibility vigorously notwithstanding the questions about the two Kansas cases. It also revealed that Dr. Young did not review any microscopic slides of CF's eyes or brain, prepare a written report of his findings, or consult a neuropathologist about CF's case. It discredited the study Dr. Young relied on by highlighting its limitations and its differences from CF's case. Given all that, we cannot conclude that there was a reasonable probability the outcome would have been more favorable to Mr. Nielsen had the State not asked the two challenged questions.

CONCLUSION

[¶45] The State's medical experts did not offer improper testimony as to Mr. Nielsen's guilt or credibility, nor has Mr. Nielsen demonstrated a reasonable probability that the outcome of the trial would have been more favorable to him had the State not asked Dr. Young the challenged questions. We affirm.