
IN THE
APPELLATE COURT OF ILLINOIS
SECOND DISTRICT

THE PEOPLE OF THE STATE OF ILLINOIS,)	Appeal from the Circuit Court of Du Page County.
)	
Plaintiff-Appellee,)	
)	
v.)	No. 01--CF--1453
)	
JACQUELYN A. SWART,)	Honorable
)	Kathryn E. Creswell,
Defendant-Appellant.)	Judge, Presiding.

JUSTICE BYRNE delivered the opinion of the court:

A jury found defendant, Jacquelyn Swart, guilty of the first-degree murder of a 14-month-old girl, Alexandra Pirkins (Alex). See 720 ILCS 5/9--1(a)(2) (2004). The trial court imposed a 35-year prison term. The State's theory of the case is that Alex succumbed to "shaken baby syndrome" while in defendant's care. Defendant denies shaking Alex, and at trial, she attempted to introduce evidence that Alex suffered an "undetected injury" during the days preceding her death.

On appeal, defendant argues that (1) the State's medical experts were not credible and (2) the prosecutor committed reversible error by suggesting during closing argument that defendant abused Alex not only on the date of her death but also five days earlier. Notably, at trial, defendant neither challenged the admissibility of the State's expert testimony pursuant to Frye v. United States, 293 F. 1013 (D.C. Cir. 1923), nor objected to the prosecutor's comments. We affirm.

FACTS

On April 7, 1998, Alex was born to Todd and Wendy Pirkins. Beginning 10 weeks after Alex's birth, the Pirkins employed defendant, the wife of Wendy's coworker, to provide daycare for Alex in defendant's apartment. Defendant cared for Alex for approximately one year, until she was hospitalized on Monday, June 21, 1999. Defendant and her husband have two children of their own: "Nemesis," a boy who was six years old at the time of the incident, and "Felix," a girl who was Alex's age. Before Felix was born, defendant worked at a Kindercare facility, where she received child abuse training. Defendant was told that shaking a baby is dangerous and can be fatal.

Detectives Timothy Connell and Tim Garnish interviewed defendant as part of the investigation. Defendant denied shaking her own children and insisted that "she had never handled Alex roughly, nor shaken her, nor [had] she ever struck her in any way."

A. Chain of Events

1. Wednesday, June 16, 1999

Wendy, Todd, their family members, and defendant testified about the days immediately preceding Alex's death. On the morning of Wednesday, June 16, 1999, Wendy dropped Alex off at defendant's apartment, as was customary. Ordinarily, Alex napped for 1 to 1½ hours after lunch. However, when Wendy returned at 5 p.m., Alex was still sleeping, and defendant stated that she did not wish to wake Alex because Alex had been "very crabby" that day. Alex behaved normally the rest of the evening, but she took longer than usual to fall asleep, which Wendy attributed to the long nap.

Each day, defendant prepared handwritten notes chronicling Alex's activities, meals, and moods, and Wendy would read them upon returning home with Alex. On June 16, defendant wrote that "Alex has been pretty crabby all day" and that defendant had to put her back down to sleep as "nothing else made her happy."

2. Thursday, June 17, 1999

Wendy testified that, on Thursday, June 17, 1999, Alex behaved normally except that she drooled constantly and was more whiny and "needier" than usual, because she was teething. Todd testified that the teething had interfered with Alex's sleep for two weeks before her death. When Wendy took Alex to defendant's apartment, she instructed defendant to limit Alex's nap. Wendy arrived to pick up Alex at defendant's apartment in the evening, and when Alex stood to walk toward her mother, she vomited. Defendant told Wendy that Alex must have vomited because she ate prunes that day and that Alex had been "kind of cranky" for the half hour before Wendy's arrival. Detective Connell testified that defendant told him about the vomiting episode.

Wendy testified that Alex was quieter than usual on the drive home. However, Alex ate her dinner normally and did not vomit that evening. Wendy did not recall if she told the police that Alex was lethargic on the way home.

On June 17, defendant wrote a note asking, "is it Friday yet?" However, defendant thought that she had probably written "a smiley face at the end of it."

3. Friday, June 18, 1999

Wendy described Alex's behavior on the morning of Friday, June 18, 1999, as "typical." When Wendy brought Alex to defendant's home, Alex had not yet finished her bottle, so Wendy stayed a bit longer and played with Alex when she became "whiney." Wendy coaxed Alex into a good mood through play, but Alex vomited and began to cry. Wendy left, and defendant put Alex down for her nap from 9 to 10:30 a.m. Defendant informed Wendy by telephone that Alex had taken her morning nap and could eat toast. At 11:30 a.m., Wendy retrieved Alex and went to a company picnic as planned. Defendant also attended the picnic.

Alex was a bit shy at the picnic, but eventually ate and got involved chasing a huge ball. Alex missed her afternoon nap, and about five other adults watched Alex while Wendy played in a softball

game. One of the adults testified that Alex fed herself Cheerios, drank juice from a cup, and otherwise appeared normal for a 14-month-old girl. Wendy took Alex home at 4 p.m.

On Friday evening, Wendy and Todd attended a play. Scott and Laurie Pirkins, Todd's brother and sister-in-law, watched Alex. Laurie testified that Alex did not vomit but was fussy during dinner. After an evening stroll with Alex, Laurie and Scott readied Alex for bed and reported to her parents that Alex was "fine." Wendy and Todd retrieved Alex at approximately 2 a.m. and took her home.

4. Saturday, June 19, 1999

On Saturday, the Pirkinses prepared their home for a Father's Day party the next day. Wendy testified that Alex awakened, drank her bottle, and by 9 a.m. was in the basement with Todd and a family friend who were assembling a pool table. Alex was "walking and laughing and running around." Alex did not appear injured in any way.

Wendy's mother arrived at 10 a.m., and Alex napped for a half-hour. Wendy, her mother, and Alex went to the mall, where Alex was alert and interested in her surroundings. Alex ate, ran, and walked around the mall until the three returned home at 6 p.m. Like the day before, Alex missed her afternoon nap. Todd played with Alex, bathed her, and put her to bed between 8:30 and 9 p.m. Alex slept through the night.

5. Sunday, June 20, 1999

On Father's Day, Alex awoke at 7 a.m. and Wendy gave her a bottle of milk. At 12:30 p.m., Wendy fed her again and put her down for her morning nap. Alex had no difficulty eating. The party guests began arriving at 1:30 p.m., and Alex was awakened by the commotion. Alex played with her grandmother and aunt and appeared fine. Later in the afternoon, Wendy and several others left to

purchase Alex some outdoor toys, including a plastic bubble car and a slide. The family activity prevented Alex from taking her afternoon nap.

Wendy and Todd testified that Alex played on the slide "nonstop." Once, Alex slid down faster than usual and her head was "pushed back" against the slide. Alex whined but did not cry. When she reached the bottom of the slide, she immediately stood and ran around to continue using it. Wendy, Todd, and two other family members testified to Alex's reaction to hitting her head. Wendy and Todd testified that Alex ate dinner and became very tired near the end of the evening. Wendy and two others testified that Wendy put Alex to bed between 8 and 8:30 p.m. and that Alex fell asleep quickly.

6. Monday, June 21, 1999

On Monday, June 21, 1999, Alex awoke at approximately 6 a.m., which was an hour earlier than usual. Wendy placed Alex on Wendy's waterbed, and after resting a short time, Alex began to play. Alex was "on all fours" looking at her reflection in the mirror hung behind the headboard, and she started crawling toward the mirror. Wendy testified that Alex "slipped a little" and bumped her forehead on the headboard. Alex did not cry, and the bump resulted in a small red mark over her eyebrow.

Wendy set Alex on the floor to play with some toys, and Alex became progressively "whinier" and wished to be picked up. Wendy gave her a bottle of milk and lay on the couch with her. Alex finished the entire eight-ounce bottle, and Wendy returned her to the crib, where she fell asleep immediately.

Wendy called defendant and told her that she and Alex would be late that morning. Wendy wished to sleep in that morning, but she falsely told defendant that she was waiting for a repairman.

Wendy explained that she lied because she could come and go to work as she pleased, unlike defendant's husband, who might be resentful of Wendy.

At 8 a.m., Alex was still sleeping, and Wendy called defendant to say she planned to let Alex sleep in so they would not have a "bad Monday." Wendy explained that Mondays were the hardest day of the week for Alex. Alex awoke after 9 a.m. and ate scrambled eggs, and Wendy took her to defendant's apartment. During the drive, Alex was in a "great mood" and was "playful--[in] her typical happy, jolly mood."

Wendy carried Alex from the car to defendant's door and set her down. Alex leaned on the door and "stumbled a bit" when it opened. Wendy and defendant conversed and Alex ran through the kitchen, took magnets off the refrigerator door, and handed them to Felix, defendant's daughter. Wendy testified that she told defendant that the family had a busy weekend, Alex had not napped much, and Alex had been "a little fussy" that morning but was in a much better mood. Defendant testified that Wendy told her that Alex was "cranky and fussy all weekend" and had been "very clumsy that morning." According to defendant, Alex tripped and fell in the doorway.

Defendant testified that, after Wendy left, she took Alex and Felix outside to play on the swings at 10:30 a.m. Felix stayed on the patio, and defendant placed Alex on the grass, which was "kind of damp." Because Alex was fussy, defendant moved her to another spot, which was damp as well. Defendant took the girls back inside, where they stayed for 10 to 15 minutes.

Sandy Powers, defendant's neighbor, testified that she was working at her desk near her patio door when, sometime between 10 a.m. and noon, she heard a baby crying in defendant's apartment. She rose to close the door and saw defendant carrying Alex as defendant exited her apartment. Alex was "crying hard" as defendant placed her on the grass. Alex was sitting "on her bottom with her legs out in front of her and her arms at her sides." Alex's back was perpendicular to the ground and her

head was erect. After defendant placed Alex on the grass, Powers saw defendant return to the apartment and help Felix out the door. As Felix "toddl[ed]," Alex continued to cry, so defendant "very gently" moved her to another part of the grass. Powers stated that Alex was again sitting with her legs out in front of her and her arms at her sides. When Felix began crying, defendant brought both girls back into her home, and Powers could no longer hear crying after defendant closed her patio door. Defendant testified that she closed the patio door because her air conditioner was running.

Defendant testified that, at 11 a.m., she prepared lunch for the girls. Defendant gave Alex turkey bologna, peas, and carrots, but Alex ate only the peas. At 11:30 a.m., defendant changed the girls' diapers and gave them their bottles. Both girls became cranky and defendant put them down for their naps. Defendant then turned on her white-noise machine.

At 12:30 p.m., defendant checked on the girls, saw that Alex was awake, and brought her to the living room. At 1:18 p.m., defendant telephoned her husband at his office. She did not remember why she called, and she denied calling him to say that she had done something to hurt Alex.

Defendant testified that Felix awoke between 1:15 and 1:30 p.m., and the girls played until Alex became cranky and began to cry. At 1:40 p.m., defendant took the girls outside again, placing Alex on her feet in the grass. Alex sat while Felix walked toward the swings. Defendant stood Alex up, but Alex immediately sat down and began to cry. Defendant took Alex to the swings and placed her back-to-back against Felix on one of the swings. Alex did not stop crying after 5 to 10 minutes of swinging, so defendant took the girls back inside. Powers testified that she never saw defendant and the girls near the swings on June 21. Defendant conceded that, if she took the most direct path to the swings, she would have passed Powers' building.

Defendant testified that, upon returning from the swings, she changed Alex's diaper and put her in the playpen, but Alex continued to cry. Defendant left the room momentarily and returned to activate the white-noise machine. When defendant walked in the room, Alex was not crying but her breathing was "really congested." Defendant picked up Alex, but "[s]he was just limp, her head kind of flopped back and she just wasn't moving." Defendant called Alex by name, but she would just open and close her eyes as if she were "really tired." Detective Connell testified that defendant told him that Alex's "eyes were fluttering around a little bit and she *** sounded like she was kind of congested."

Defendant testified that she called Wendy at 2:08 p.m. to tell her that something was wrong with Alex. When Wendy did not answer, defendant left a voice mail message. Wendy testified that her office receptionist told her that defendant had left several messages. Defendant eventually reached Wendy, who testified that defendant asked her "does Alex ever get floppy when she's tired?" Wendy responded by asking what defendant meant by "floppy," and defendant said "Wendy, I'm scared something's wrong." Wendy then said she would be "right there."

When Wendy arrived, defendant was holding Alex, who was unconscious. Defendant asked whether Alex could "just be sleeping" and immediately handed her to Wendy. Wendy said, "no," and directed defendant to call 911. Wendy testified that she could hear Alex breathing. Wendy cleared Alex's mouth of vomit and peas, and defendant explained that Alex vomited while Wendy was en route. Defendant stated that she did not call 911 immediately because all she "could think of was to call Wendy."

Wendy and defendant each testified that, while awaiting the paramedics, defendant told Wendy about feeding Alex lunch and playing on the swings. Defendant also said that Alex became crabby and that, after lying down for several minutes, Alex began "breathing funny" and "her eyes

rolled up in her head and that's when she got floppy." Defendant also told the paramedics her version of the events, while they treated Alex.

Shelly Carbone, who had been a paramedic for 14 years, testified that she and five other paramedics arrived at defendant's home within one minute of the 911 call. Alex was unconscious and unresponsive, her respiratory rate was inadequate, and her arms and legs were making "no purposeful movement." The paramedics used a bag valve and mask to forcibly deliver oxygen to Alex. Carbone testified that Alex scored 3 out of 15 on the Glasgow Coma Scale, which was the "worse [sic] calculation for a coma score." Alex's coma score indicated no ocular response, no verbal ability, and no motor movement. Alex's blood pressure indicated either poor cardiac output, a loss of blood, or neurological problems. One of Alex's pupils was larger than the other, which indicated that she suffered a traumatic neurological event. The paramedics continued ventilation and placed an intravenous catheter in her arm.

Carbone testified that, while the paramedics treated Alex, defendant was pacing in short steps with her arms folded, biting one of her thumbnails. Wendy was very emotional and tearful. Carbone testified that defendant told her that Alex had played before and after lunch but had become "crabby." Defendant explained that, when she could not rouse Alex from her post-lunch nap, she called Wendy. Defendant told Carbone that she had been with Alex "all day" and that Alex had not fallen or gotten into any chemicals. According to Carbone, she had to solicit all of the information from defendant and defendant did not give it in a "free-flow manner."

Carbone observed Alex moaning but not crying, making noisy respiration sounds, and posturing, which all indicated a traumatic neurological injury. Wendy, Todd, defendant, and defendant's husband all went to Hinsdale Hospital, where Alex was treated.

Dr. Jose Quinones testified he was called to evaluate Alex at 2:50 p.m. Alex was very pale and unresponsive to "anything," but she presented no outward signs of injury. Alex was intubated, and CT scans were performed because Alex exhibited cerebrate posturing, a reflexive movement of the spinal cord without any control from the upper central nervous system, manifested by the hyperextension of the feet, hands, and legs. The CT scan disclosed blood hemorrhaging in the brain, as well as some edema, or swelling, of the brain. Dr. Quinones diagnosed Alex with shaken baby syndrome based on the neurological findings, the clinical condition presented by Alex, and the CT scan.

Dr. Quinones opined that "[t]here's no wax and wane" to the condition because, once the trauma causes the cerebral edema, the swelling progresses and "the child continues to be sick and gets progressively sicker and eventually becomes lethargic and unresponsive." Once the trauma was inflicted, Alex would not have been able to talk, eat, or act normally. Dr. Quinones told the parents that he suspected child abuse and that they should talk to the authorities, whom the hospital had alerted. Wendy and Todd told Dr. Quinones about Alex's recent vomiting, but there was some dispute as to how much vomiting they reported. There was also some dispute as to whether the Pirkinse characterized Alex's incident on the slide as a bump on the head or a fall to the ground. Regardless, Dr. Quinones testified that Alex's injuries "absolutely [could] not" have been caused by falling off a slide. Wendy and Todd failed to tell the doctor about Alex bumping her forehead on the headboard that morning.

Alex was transferred to Christ Hope Hospital, but defendant did not follow the Pirkinse there. Defendant testified that she left Hinsdale Hospital because there was nothing more she could do for Alex, not because she feared the police. At that time, defendant told Todd that "nothing [had]

happened" to cause the injuries. At 12:30 a.m., the police arrived at defendant's home and conducted an interview, during which defendant told them about Alex's meals and her play on the swing.

7. The Days Following Hospitalization

Records showed that defendant called her attorney less than 10 minutes before Alex was pronounced dead at 10:34 p.m. on June 22, 1999. On her attorney's advice, defendant did not attend Alex's wake or have any contact with the Pirkinses. Defendant testified that she did not give Wendy her daily note taken on June 21, because she never saw Wendy again. Defendant stated that she gave the note to her attorney one week before trial, which was five years after Alex's death.

Defendant denied accessing Internet websites describing shaken baby syndrome after she left Hinsdale Hospital, but she acknowledged the possibility that her husband had done so. Defendant acknowledged that she later accessed such websites on the advice of her attorney.

Detective Connell testified that, while he questioned defendant, she said, "Just ask me the question." When he asked, "What question?" she replied, "Did I do anything to Alex?" Detective Connell testified that he asked defendant whether she harmed Alex, and defendant said "no."

Defendant admitted that "sometimes" she would get frustrated when the girls were crying and she could not console them. Defendant denied that she was stressed by other factors like financial problems. She further testified that she "had some concerns at some certain times" that Alex was an abused or neglected child and that she had told her husband about her suspicions. However, defendant admitted that she never told the police or the Department of Children and Family Services (DCFS) about her concerns. Defendant further admitted that nothing made her believe that Alex was injured when she arrived at her home on the date of the incident.

B. Expert Testimony

1. The State's Experts

In addition to Dr. Quinones, the State called six other medical experts to opine on Alex's condition and the cause of it. Dr. Benjamin Ticho, a pediatric ophthalmologist on staff at Christ Hope Hospital, examined Alex's eyes to determine what she could see and whether any structural abnormalities affected the way the parts of her eyes worked. Alex exhibited "no response to any visual stimuli of any kind," and neither pupil constricted. The external portions of her eyes appeared "reasonably normal," but the rear parts had multiple hemorrhages in the peripapillary area, which is the area at the tip of the optic nerve, called the "optic disc" or "papilla." Dr. Ticho observed hemorrhages in the center parts of the retinas and in the intraretinal and preretinal areas, but none were seen in the edges of the retinas. The hemorrhages were similar in both eyes.

Dr. Ticho used photographs to explain his observations and opinions. Dr. Ticho stated that one of the photos depicted flame-shaped retinal hemorrhages, which were "clinically seen in the condition called shaken baby syndrome." He observed no evidence of blunt ocular trauma, suggesting that the eyes had not been hit directly. Dr. Ticho opined that to a reasonable degree of medical certainty, his findings indicated that shaking was the mechanism of injury. He concluded that in the "absence of any alternative explanation, these types of retinal hemorrhages in this clinical setting is virtually diagnostic of shaken baby syndrome." Dr. Ticho admitted on cross-examination that he could not detect shaken baby syndrome strictly from an eye examination, but one "can get a very good and high suspicion for it."

Dr. Ticho testified that neither he nor any ophthalmologist could determine an "exact" time of injury, but he could "date" the injury based on the color of blood. In his view, Alex sustained "fresh" injuries, which meant that they could have been just inflicted or two weeks old.

Dr. Gerardo Reyes, a critical care pediatrician on staff at Christ Hope Hospital, testified that Alex was admitted to the pediatric intensive care unit with a note from Hinsdale Hospital reporting

that she was "extremely ill with extensive brain damage." Wendy and Todd testified that, when they arrived, he began questioning them and said to think of "every last detail no matter how insignificant [they] they thought it was of what could have happened." They told him everything that they knew had happened that week, including the slide incident.

Alex did not require sedation to be intubated because she was in a severe coma and had no feeling. Dr. Reyes suspected shaken baby syndrome and consulted with Dr. Ticho and Dr. Yoon Hahn, a pediatric neurosurgeon. Dr. Hahn concluded that Alex had cerebral edema, severe brain damage, and internal bleeding of the brain. Dr. Reyes testified that, based on their findings and the 50 cases of shaken baby syndrome he had diagnosed in his 15 years of medical practice, he concluded to a reasonable degree of medical certainty that Alex suffered from shaken baby syndrome. The CT scan revealed damage to Alex's neck in the area of the cervical spine, which was consistent with ligament damage of the neck. Alex's cause of death was "brain herniation." Dr. Reyes opined that Alex's injuries were not consistent with having been in an accident, such as falling off a bike or playground equipment or being struck by a car. Dr. Reyes told Wendy and Todd that Alex was suffering from a lot of brain swelling and bleeding and that she had a "very serious neck injury."

Todd testified that, before her death, Alex had never been involved in a car crash or taken to the hospital for treatment of any injury. Once Alex had learned to walk, she stopped crawling; she was very active and playful and she ate normally and verbalized.

Dr. Kathleen Gruzalski, one of Alex's prior pediatricians, testified that at her one-year checkup, Alex was described as a "very tall girl" who was in excellent health and was developing normally. Approximately six months before her death, Alex was diagnosed with stomach flu, which was not unusual for a child her age. Dr. Gruzalski also testified that the vomiting Alex experienced

before her death was not unusual for a 14-month-old girl. On cross-examination, the doctor testified that vomiting could be caused by increased pressure on the brain after a head injury.

Dr. Wilbur Smith, an expert in pediatric radiology and pediatrics, testified that he reviewed Alex's medical records, autopsy records, scans, and police reports. Dr. Smith also reviewed the reports of Dr. Jan Leestma, a neuropathologist, and Dr. Ronald Uscinski, a neurosurgeon, whom the defense retained as experts. Dr. Smith testified that Alex's CT scans showed she had two or three head injuries. First, she suffered an injury to the subgaleal space, which indicated that there must have been an impact to the head. Second, she suffered an injury to the subdural space, which indicated the veins had been torn and had bled into the subdural space. Third, she suffered an injury to the subarachnoid space, which indicated that the veins from the surface of the brain had been torn and there was blood against the surface of the brain. The CT scans taken at Hinsdale Hospital and Christ Hope Hospital depicted a hematoma, or fresh blood outside the blood vessel. Alex had a subarachnoid hemorrhage and a subdural hematoma. Dr. Smith explained that "a subarachnoid hemorrhage means that blood is against the brain and blood against the brain always gives symptoms and always gives quite severe symptoms very fast. *** Those [adults] that are not knocked unconscious by it say ['I have the worst headache of my life.('] It's called a thunderclap headache. You can't see. You vomit. You have a terrible headache." Dr. Smith also identified an intrahemispheric subdural hematoma between the two hemispheres of Alex's brain, which, he added, "[a]lmost always comes from shaking."

Dr. Smith testified that two of the CT scans showed that Alex's brain "had suffered a very, very severe injury" and that so many cells were dying that leaking fluid caused cerebral swelling. Based on the subarachnoid hemorrhage and bleeding, Dr. Smith opined that Alex would have exhibited symptoms of unbearable pain or becoming comatose within minutes of suffering the injury.

Moreover, Alex exhibited a "significant cervical injury," which would have rendered her comatose and prevented her from responding to commands. The severe edema caused the joint that holds the head together to be "blown apart." Symptoms of a spinal injury are paralysis and spinal shock, but a person with paralysis could experience muscle spasms or twitching without any "purposeful movement." Dr. Smith opined that neck injuries are consistent with shaking even though they occur in only 2% of cases. Dr. Smith stated that he did not see "any evidence of an old injury on Alex," and, even if there had been one, it did not cause her death. Dr. Smith testified that, to a reasonable degree of medical certainty, a combination of severe shaking and impact caused Alex's death. Dr. Smith conferred with Dr. Adrienne Segovia, who performed Alex's autopsy, and she confirmed all of the injuries he observed.

Dr. Segovia testified that she observed a small, irregularly shaped external bruise just below the crown of Alex's head. Dr. Segovia further observed a similarly sized bruise over the bone of the skull. The internal bruise was underlying the external bruise. Dr. Segovia concluded that Alex's subdural hematoma was "recent" because it was "nonadherent" and did not stick to the dura. She opined that Alex had not suffered an "old" injury. Dr. Segovia concluded that Alex's cervical injuries would have directly affected her breathing and movement, resulting in paralysis. Alex's injuries were "consistent with significant force, significant trauma." Dr. Segovia testified that, to a reasonable degree of medical and scientific certainty, Alex's death was caused by swelling of the brain and multiple injuries to the neck, the spinal cord, and the subdural and subarachnoid areas of the brain. Dr. Segovia concluded that Alex's death was a result of blunt trauma inflicted by child abuse.

Dr. Randall Alexander, an expert in pediatrics and child abuse, reviewed the autopsy report, the medical records, some of the police reports, the photos, scans, and X rays, and the reports of Drs. Leestma, Uscinski, and Mark Schuman, who were retained by defendant. Dr. Alexander testified that

shaken baby syndrome occurs when a child is shaken repetitively back and forth and with such violence that she sustains injuries. The primary injury is to the brain; developmental disabilities occur in 25% of cases, and death results in another 25% of cases. Shaken baby syndrome requires repetitive shaking to cause brain damage through cumulative force. Dr. Alexander characterized shaken baby syndrome as a medically recognized diagnosis and a form of child abuse, which "most people in medicine" recognize as possibly causing significant injury or death. He acknowledged that contrary opinions about this diagnosis were "not surprising," but mentioned that medical experts differ in opinion on a variety of matters.

Dr. Alexander testified that, usually, a shaken child is younger than one year old because she is small and easy to lift. A person inflicting the injury usually holds the child under the arms and shakes her back and forth. The head's acceleration and deceleration is a form of blunt trauma. Studies have shown that the head does not move straight back, but will pivot to the side during shaking. Because young children have very flexible necks, neck injury is uncommon, and a child who survives a shaking rarely has a spinal cord injury. However, 3% to 5% of fatal shakings cause soft tissue neck injuries. Dr. Alexander acknowledged that Alex suffered a neck injury and a hematoma on the optic nerve, which were rare.

Dr. Alexander testified that the shaking stresses and strains blood vessels and nerve cells, resulting in a "marker injury" of blood leaking in the subdural or subarachnoid spaces. Furthermore, multiple layers of retinal hemorrhages, which are found in the back of the eye and in front of the retina, are peculiar to shaken baby syndrome. Retinal hemorrhages can be caused by a rapid rise in intracranial pressure, but only under certain circumstances, which would need to be investigated. The least severe cases of shaken baby syndrome resemble concussions and involve irritability, lethargy, vomiting, and irregular eating; but concussions do not have retinal hemorrhages or subdural or

subarachnoid bleeding. In the most severe shaken baby case, the child will become unconscious immediately and breathing difficulties will set in. In the worst situation, posturing will occur. Dr. Alexander testified that Alex's injuries were abusive and fit the "classical pattern of shaking with some additional impact" indicated by bruising under the scalp. The injuries were inflicted by violent shaking of a minimum of four or five shakes. Injuries to the brain cells would have been immediate; she would have developed severe symptoms right after the shaking. Dr. Alexander acknowledged that an old subdural hematoma could possibly cause brain swelling if it was "huge," but Alex's injuries as a whole showed that she had been shaken. With a reasonable degree of medical certainty, Dr. Alexander opined that Alex's fatal head injuries were inflicted after she ate lunch on June 21, 1999.

2. Defendant's Experts

Dr. Darinka Mileusnic, an expert in forensic pathology and anatomic pathology, testified that Alex had suffered a subdural hematoma and spinal injury about two weeks before her death and that it was healing at the time she suffered a second injury. The slides of the brain tissue indicated that the new injury occurred three days from the time of death, plus or minus two days. A better medical history would have helped estimate the time of injury. Dr. Mileusnic emphasized that Dr. Segovia's autopsy report did not mention the thickness of the subarachnoid hemorrhage, which, in Dr. Mileusnic's opinion, would not have necessarily caused immediate severe symptoms of unconsciousness unless it had been at the base of the brain with a large amount of bleeding.

Dr. Mileusnic opined that neither the old subdural hematoma nor the more recent one would have impaired Alex's ability to eat, pick peas out of carrots, or have normal motor functions. Alex would have shown symptoms only of crankiness, lethargy, and vomiting. The bumps to Alex's head from either the slide or the headboard could have caused the healing subdural hematoma to rebleed.

Dr. Mileusnic acknowledged that some experts believed that subdural hematomas could rebleed spontaneously but this was a highly controversial opinion.

Dr. Mileusnic opined that there was no evidence of a major accident or that Alex had been "really abused." She emphasized that there were no witnesses to the shaking, no admission by defendant, no grab marks on Alex, and no injuries to Alex's long bones. Retinal hemorrhages are most prevalent in child abuse cases but they can also be caused by infections, clotting disorders, blood disorders, meningitis, or undiagnosed metabolic disorders. Dr. Mileusnic relied on the ophthalmic report to determine that Alex's hemorrhages were one to two weeks old, but she conceded that they could have been less than 24 hours old. On cross-examination, Dr. Mileusnic agreed that Alex had suffered child abuse and that her injuries were consistent with shaken baby syndrome, which was a form of blunt trauma. She testified that, to a reasonable degree of medical certainty, Alex had a subdural hematoma approximately three days old and a spinal injury about two to three weeks old but neither would have caused immediate unconsciousness. Dr. Mileusnic acknowledged the uncertainty of the possibility that a rebleed of the old subdural hematoma resulted in the new trauma.

Dr. Mark Schuman, an expert in forensic pathology, opined on Alex's cause of death, but he did not review all of the police reports or the CT scans and X rays. Dr. Schuman dated the subdural hematoma through histology and concluded that it was 7 to 10 days old. He observed a more traumatic event, which was "just blood" without evidence of healing. A minor bump on the head from falling from a small slide or bumping the head on a headboard could cause an existing subdural hematoma to rebleed. Neither of the injuries, in Dr. Schuman's opinion, would have caused immediate unconsciousness. He did not observe any retinal hemorrhages, but he saw reports describing them. The retinal hemorrhages could have been caused by falls, accidental head injuries, or meningitis. When the prosecution confronted Dr. Schuman with published position papers and

studies indicating the seriousness of shaken baby syndrome, Dr. Schuman discounted them, but acknowledged that shaking a 14-month-old child "doesn't seem like the good thing to do." He opined that a head injury contributed to Alex's death, and he also agreed that it was possible that defendant shook Alex and caused an impact to her head.

Dr. Jan Leestma, an expert in anatomic pathology and neuropathology, testified that he reviewed the hospital records, CT scans, slides, police reports, photographs from other expert witnesses, and the autopsy report and the other materials generated by the pathologist. He opined that Alex suffered from a chronic subdural hematoma, the oldest parts of which were 10 days to "a couple weeks" old, as well as a more recent subdural hematoma, which could have been 5 minutes to several days old. He acknowledged that his dating technique had limited precision. Dr. Leestma testified that a 14-month-old child might exhibit no symptoms from an existing subdural hematoma or might exhibit crying, unhappiness, crankiness, fussiness, lethargy, vomiting, or sometimes seizures. Alex's symptoms correlated with an existing subdural hematoma, but the existing subdural hematoma could not be proven. He opined that there was no evidence that Alex had been shaken, because there were no grip marks, which would be expected on a 22-pound child. Dr. Leestma acknowledged that, in 1997, he testified in another case that retinal hemorrhages were typically caused by shaking and were a "red flag" for trauma and that, in 2001, he testified that "children who suffer life threatening head injuries are symptomatic immediately." He also conceded that, as he wrote in a 1988 textbook, the "coexistence of intracranial hemorrhage and retinal hemorrhage is strongly suggestive of willful rather than accidental injury." However, he concluded that there was no evidence of a shaking trauma in this case and that there was an evolving body of experimental evidence in the field.

Dr. Ronald Uscinski, an expert in neurosurgery, testified that his review of the CT scans disclosed an abnormality in the architecture of Alex's brain; a layer of fresh blood over both cerebral

hemispheres of the brain; a small amount of blood over and below the tentorium, which indicated fresh blood in the subdural space; and oxygen depletion. He concluded that Alex's subdural hematoma was so small that it could be "clinically silent" and was probably several days old.

Dr. Uscinski opined that Alex's subdural hematoma would not have caused immediate unconsciousness when it formed. He concluded that her vomiting and lethargy were signs of an existing hematoma, which would manifest itself after an injury and expand slowly so the person becomes symptomatic "weeks or months" later. Dr. Uscinski gleaned from the autopsy findings and medical records that Alex had not suffered a spinal cord injury, because she was breathing and moving her legs. He concluded that Alex had not been shaken, because a person could not generate the force required to cause her intracranial injury. He disagreed with Dr. Alexander's view that "shaken baby syndrome was a serious and clearly definable form of child abuse."

3. The State's Rebuttal Witnesses

Dr. Hannes Vogel, an expert in pediatrics, anatomic pathology, and neuropathology, testified that he reviewed the histologic sections from the autopsy, the medical examiner's report, the photographs, the hospital records, some of the well-baby records, deposition transcripts, the police reports, and opinions of the other experts. In Dr. Vogel's opinion, there was "absolutely no evidence in this case of a preexisting injury to [Alex]." Dr. Vogel then explained his interpretation of the evidence in reaching his conclusion. Dr. Vogel identified an injury to the spinal cord, retinal hemorrhages, and a subdural hematoma caused by trauma. He stated that there was no evidence of a subdural hematoma that had rebled. Dr. Vogel also identified a subgaleal hemorrhage, which signified a "significant blow to the back of the head, *** not the sort of thing that kids get when they just bump their heads." He concluded that Alex would have become symptomatic within a matter of seconds or one minute after the injuries were inflicted.

Dr. Mary Case, an expert in forensic pathology, neuropathology, and anatomical pathology, stated that, to a reasonable degree of medical certainty, Alex suffered an acceleration-deceleration injury, which caused the brain to rotate on its axis. Like the State's other experts, she testified that Alex died from an abusive head injury and was the victim of homicide. However, she did not characterize Alex's condition as shaken baby syndrome because she did not know whether Alex suffered an impact as well as shaking.

C. Posttrial Procedure

Following the jury's guilty verdict, defendant moved for a new trial, alleging several trial errors and deprivations of various constitutional rights. The only issue raised in the motion that defendant revisits on appeal is whether she was proved guilty beyond a reasonable doubt. On April 22, 2004, the trial court imposed a 35-year prison term, and defendant filed a timely notice of appeal.

ANALYSIS

On appeal, defendant argues that (1) "the expert testimony regarding shaken baby syndrome, absent any additional evidence to demonstrate [defendant's] guilt, was insufficient to prove her guilty beyond a reasonable doubt"; and (2) "the prosecutor's surprise and unsubstantiated propensity argument that [defendant] committed an act of abuse five days before the charged offense combined with its misstatement of the law regarding other crimes evidence warrants reversal." We disagree with both propositions.

A. Expert Testimony

The jury found defendant guilty of two counts of first-degree murder. The counts alleged that on June 21, 1999, "defendant, without lawful justification, shook and/or caused blunt trauma to the head of Alexandra Pirkins, knowing said act or acts created a strong probability of great bodily harm

[count III] [or] death [count IV] to Alexandra Pirkins, thereby causing the death of Alexandra Pirkins." See 720 ILCS 5/9--1(a)(2) (West 2004).

On appeal, defendant challenges the State's scientific evidence by framing the issue as "whether expert testimony in the highly controversial area of shaken baby syndrome offered to prove the manner and timing that the victim's fatal injuries were inflicted, absent any other evidence of the defendant's guilt, amounts to proof beyond a reasonable doubt for the offense of murder."

It is well settled that the decision to admit or exclude expert testimony is within the sound discretion of the trial court. Thompson v. Gordon, 221 Ill. 2d 414, 428 (2006). A person may testify as an expert if his experience and qualifications afford him knowledge that is not common to laypersons, and if his testimony will aid the trier of fact in reaching its conclusions. Thompson, 221 Ill. 2d at 428. "There is no predetermined formula for how an expert acquires specialized knowledge or experience and the expert can gain such through practical experience, scientific study, education, training or research." Thompson, 221 Ill. 2d at 428-29, quoting People v. Miller, 173 Ill. 2d 167, 186 (1996). "Thus, [f]ormal academic training or specific degrees are not required to qualify a person as an expert; practical experience in a field may serve just as well to qualify him." Thompson, 221 Ill. 2d at 429, quoting Lee v. Chicago Transit Authority, 152 Ill. 2d 432, 459 (1992). To testify, an expert need only have knowledge and experience beyond that of an average citizen. Thompson, 221 Ill. 2d at 429. "Expert testimony, then, is admissible 'if the proffered expert is qualified by knowledge, skill, experience, training, or education, and the testimony will assist the trier of fact in understanding the evidence.'" Thompson, 221 Ill. 2d at 429, quoting Snelson v. Kamm, 204 Ill. 2d 1, 24 (2003).

Defendant does not challenge the credentials of the State's expert witnesses. Instead, she implicitly challenges the science underlying their opinions by asserting that the theory of shaken baby

syndrome is "highly controversial" and "hotly contested." Illinois courts follow the Frye test in determining the admissibility of expert testimony based on novel scientific evidence. Donaldson v. Central Illinois Public Service Co., 199 Ill. 2d 63, 76-77 (2002), overruled on other grounds, In re Commitment of Simons, 213 Ill. 2d 523 (2004). The "general acceptance" test articulated in Frye provides that scientific evidence is admissible only if the methodology or scientific principle upon which the opinion is based is sufficiently established to have gained general acceptance in the particular field in which it belongs. Frye, 293 F. at 1014; Donaldson, 199 Ill. 2d at 77. However, general acceptance does not require that the methodology be accepted by unanimity, consensus, or even a majority of experts. Donaldson, 199 Ill. 2d at 78.

Because scientific evidence generally carries with it a heightened degree of reliability, a Frye hearing is conducted to weed out unreliable evidence that may fall under the guise of scientific evidence. If the novel scientific evidence has gained general acceptance in the particular field in which it belongs, then the evidence is presumed reliable and will be deemed admissible under Frye. Agnew v. Shaw, 355 Ill. App. 3d 981, 988 (2005). Subjecting novel scientific evidence to the general-acceptance test reduces the risk of relying on invalid evidence. Donaldson, 199 Ill. 2d at 78.

To supplement her indirect attempt to attack the admissibility of the State's expert opinions, defendant has cited to several treatises, newspaper articles, and medical journals challenging the theory of shaken baby syndrome. However, these materials were not filed in the trial court, and the State has moved to strike them. We ordered the motion to be taken with the case. Recently our supreme court has ruled that, when reviewing a trial court's ruling, we may rely upon materials that were not part of the trial record to determine whether a Frye hearing is required and, if so, whether the scientific technique at issue is generally accepted in the relevant scientific community. Simons, 213 Ill. 2d at 530. Illinois courts follow a dual standard of review with respect to the trial court's

admission of expert scientific testimony. The decision as to whether an expert scientific witness is qualified to testify in a subject area, and whether the proffered testimony is relevant in a particular case, remains in the sound discretion of the trial court. Simons, 213 Ill. 2d 530-31. The trial court's Frye analysis, however, is subject to de novo review. In conducting such de novo review, the reviewing court may consider not only the trial court record but also, where appropriate, sources outside the record, including legal and scientific articles, as well as court opinions from other jurisdictions. Simons, 213 Ill. 2d at 531. Consistent with Simons, we deny the State's motion to strike the references to and arguments derived from the materials defendant cites for the first time on appeal. However, for the following reasons, we conclude that defendant has waived any challenge under Frye to the scientific evidence.

In the trial court, defendant failed to invoke Frye to challenge the admissibility of the State's expert testimony. In fact, defendant inexplicably fails to even cite Frye on appeal. In Snelson v. Kamm, 204 Ill. 2d 1 (2003), the supreme court decided that the failure to request a Frye hearing results in the waiver of any objection to the foundation of an expert's opinion. Snelson, 204 Ill. 2d at 24; see also People v. Johnson, 218 Ill. 2d 125, 138 (2005) (a criminal defendant's failure to object at trial leads to "procedural default"). In Snelson, Kamm neither objected to the admissibility of the expert testimony nor filed a motion for an evidentiary hearing to determine its admissibility under Frye. Snelson, 204 Ill. 2d at 24. Because the record showed that Kamm did not object to the underlying foundation of the opposing expert's testimony at trial, the supreme court concluded that the issue had been forfeited on appeal. Snelson, 204 Ill. 2d at 25, citing People v. Moore, 171 Ill. 2d 74, 98 (1996) (defendant waived Frye issue by failing to present expert testimony at Frye hearing).

This court has similarly held that a party waives an objection under Frye by failing to preserve the issue in the trial court. See, e.g., In re Commitment of Bushong, 351 Ill. App. 3d 807 (2004);

In re Detention of Swope, 343 Ill. App. 3d 152, 158 (2003), aff'd on other grounds, 213 Ill. 2d 210 (2004). Therefore, we conclude that defendant has waived the issue of the admissibility of the State's expert testimony. Furthermore, defendant does not urge us to excuse her waiver by addressing the issue under the plain error doctrine.

While defendant has never alleged that any of the State's experts were unqualified to testify, she argues that their opinions should be disregarded because they are unpersuasive and do not support the conviction. The basis for a witness's opinion generally does not affect his standing as an expert; such matters go only to the weight of the evidence. See Snelson, 204 Ill. 2d at 26. "Indeed, the weight to be assigned to an expert opinion is for the jury to determine in light of the expert's credentials and the factual basis of his opinion." Snelson, 204 Ill. 2d at 27. Therefore, we view defendant's issue as one regarding the sufficiency of the scientific evidence rather than its admissibility.

B. Sufficiency of the Evidence

"A person who kills an individual without lawful justification commits first-degree murder if, in performing the acts which cause the death[, s]he knows that such acts create a strong probability of death or great bodily harm to that individual or another." 720 ILCS 5/9--1(a)(2) (West 2004). Defendant argues that "the expert testimony was insufficient to prove beyond a reasonable doubt that Alex Pirkins died as a result of shaken baby or shaken impact syndrome."

When considering a challenge based upon the sufficiency of the evidence supporting a criminal conviction, a reviewing court does not retry the defendant. People v. Smith, 185 Ill. 2d 532, 541 (1999). "When reviewing the sufficiency of the evidence, 'the relevant question is whether, after viewing the evidence in the light most favorable to the prosecution, any rational trier of fact could have found the essential elements of the crime beyond a reasonable doubt.'" (Emphasis in original.)

People v. Bishop, 218 Ill. 2d 232, 249 (2006), quoting Jackson v. Virginia, 443 U.S. 307, 319, 61 L. Ed. 2d 560, 573, 99 S. Ct. 2781, 2789 (1979); People v. Collins, 106 Ill. 2d 237, 261 (1985). "Testimony may be found insufficient under the Jackson standard, but only where the record evidence compels the conclusion that no reasonable person could accept it beyond a reasonable doubt." People v. Cunningham, 212 Ill. 2d 274, 280 (2004). This standard of review applies in all criminal cases, whether the evidence is direct or circumstantial, as much of the evidence is in this case. People v. Tenney, 205 Ill. 2d 411, 427 (2002).

Our duty is to carefully examine the evidence while giving due consideration to the fact that the court and jury saw and heard the witnesses. The testimony of a single witness, if it is positive and the witness credible, is sufficient to convict. Smith, 185 Ill. 2d at 541. While the credibility of a witness is within the province of the jury, and the finding of the jury on such a matter is entitled to great weight, the jury's determination is not conclusive. We will reverse a conviction where the evidence is so unreasonable, improbable, or unsatisfactory as to create a reasonable doubt of the defendant's guilt. Smith, 185 Ill. 2d at 542.

Defendant admitted that her prior employer, Kindercare, had instructed her that shaking a child would be dangerous and possibly fatal. Thus, there is no dispute that, at the time of the acts that caused Alex's death, defendant knew that such acts would create a strong probability of death or great bodily harm to Alex. See 720 ILCS 5/9--1(a)(2) (West 2004). However, defendant argues that the circumstantial evidence is insufficient to prove that she performed the acts that caused Alex's death.

The State's various medical experts testified that Alex exhibited the symptoms of shaken baby syndrome, including a subdural hematoma and retinal hemorrhages. The experts also opined that the symptoms of shaken baby syndrome manifest themselves almost immediately after the infliction of the injury; and no one disputes that defendant had control over Alex at the time she lost

consciousness. Specifically, Dr. Quinones diagnosed Alex with shaken baby syndrome based on the neurological findings, the clinical condition presented by Alex, and the CT scan. Dr. Ticho concluded that in the "absence of any alternative explanation, these types of retinal hemorrhages in this clinical setting is virtually diagnostic of shaken baby syndrome." Dr. Reyes testified that, based on the findings and the 50 cases of shaken baby syndrome he had diagnosed in his 15 years of medical practice, he concluded to a reasonable degree of medical certainty that Alex suffered from shaken baby syndrome. Dr. Smith testified that, to a reasonable degree of medical certainty, he believed that a combination of severe shaking and impact caused Alex's death. Dr. Segovia testified that, to a reasonable degree of medical and scientific certainty, Alex's death was caused by swelling of the brain and multiple injuries to the neck, the spinal cord, and the subdural and subarachnoid areas of the brain. Furthermore, some of defendant's experts testified equivocally about their conclusions to the contrary. The jury was free to credit the State's experts and discredit defendant's experts, and the verdict reflects that the jury did so.

Even if the State were required as defendant suggests to "prove beyond a reasonable doubt that no one else had opportunity to commit the crime," we conclude that the circumstantial evidence allows such an inference. Viewing the evidence in the light most favorable to the prosecution requires us to allow all reasonable inferences from the record in favor of the prosecution. See Cunningham, 212 Ill. 2d at 280. Defendant conceded at trial that Alex lost consciousness while in her care, and more than one expert testified that Alex would have become symptomatic almost immediately after suffering her fatal condition. No one suggests that anyone other than defendant had control over Alex during the hours immediately preceding her loss of consciousness on June 21, 1999, and defendant denies that Alex suffered any external injury at all on that date. We must allow the jury's

reasonable inference from this evidence that defendant's denials are incredible and that defendant inflicted the injuries causing Alex's death.

"Examining the trial evidence in the light most favorable to the State, we believe a rational trier of fact could have found the essential elements of the crime beyond a reasonable doubt." People v. Jordan, 218 Ill. 2d 255, 270 (2006).

C. Prosecution's Rebuttal Argument

Next, defendant argues that she was prejudiced when, during rebuttal argument, the prosecution commented on Alex's condition five days before she died. In defendant's view, the prosecution improperly attempted to prove her propensity to commit murder by asserting that she committed prior bad acts. The State responds that (1) defendant waived the issue by failing to object to the rebuttal at trial, (2) the prosecution's comments were not prejudicial, and (3) even if they were prejudicial, defense counsel's closing argument provoked them. We agree with all of the State's arguments.

Defendant's theory is that Alex suffered an "undetected accident" and died from a preexisting subdural hematoma, which caused the lethargy and crabbiness she exhibited on the days preceding her death. For instance, during closing argument, defense counsel asserted that "[o]ne of the symptoms is lethargy, whether you call it lethargic, sleepy, whatever, I'm not going to characterize the evidence. The evidence is the child slept all day Wednesday, that was very unusual. That's uncontraverted."

The prosecution's allegedly prejudicial rebuttal is as follows:

"You know, there was conversation about Wednesday [June 16, 2001,] and Wednesday [Alex] was crabby at the defendant's house. And Wednesday she slept all day. Think about that. She's at the defendant's house and she's crabby. What do we know about

kids that are shaken? They become lethargic and sleepy. What does she do? She sleeps all day at the defendant's house.

Now, we haven't given you any proof that she shook Alex on Wednesday. You can consider circumstantially whatever you want. We are telling you the injuries happened on [Monday] the 21st. We know because all of the doctors have said that there is an intervening act that killed her that day regardless of whether you believed she had some old injury ***. Regardless of that, that particular day the injuries were so sufficient as to kill her.

Think about it. It worked on Wednesday. She was crying on Monday. If I shake her and she sleeps all day on Wednesday, maybe it will work on Monday. But on Monday [defendant] went too far. On Monday [defendant] shook [Alex] more. On Monday she didn't put her to sleep. She silenced her."

The trial court did not rule on the propriety of the prosecution's rebuttal argument, because defendant did not object at trial and did not challenge the argument in a posttrial motion. Because defendant did not object to the prosecution's remarks at trial, any issue concerning their propriety has been procedurally defaulted. See Johnson, 218 Ill. 2d at 138; People v. Enoch, 122 Ill. 2d 176, 186 (1988) (both a trial objection and a written posttrial motion raising the issue are necessary to preserve an issue for review). Defendant asks us to excuse her procedural default of the closing argument issue under the plain error doctrine.

In People v. Nicholas, 218 Ill. 2d 104 (2005), our supreme court recently restated the plain error doctrine:

" [T]he plain error doctrine bypasses normal forfeiture principles and allows a reviewing court to consider unpreserved error when either (1) the evidence is close, regardless of the seriousness of the error, or (2) the error is serious, regardless of the

closeness of the evidence. In the first instance, the defendant must prove "prejudicial error." That is, the defendant must show both that there was plain error and that the evidence was so closely balanced that the error alone severely threatened to tip the scales of justice against him. The State, of course, can respond by arguing that the evidence was not closely balanced, but rather strongly weighted against the defendant. In the second instance, the defendant must prove there was plain error and that the error was so serious that it affected the fairness of the defendant's trial and challenged the integrity of the judicial process. [Citation.] Prejudice to the defendant is presumed because of the importance of the right involved, "regardless of the strength of the evidence." [Citation.] In both instances, the burden of persuasion remains with the defendant.' " (Emphasis omitted.) Nicholas, 218 Ill. 2d at 120-21, quoting People v. Herron, 215 Ill. 2d 167, 186-87 (2005).

Before we may apply either prong of the plain error doctrine, however, there must be a plain error. Nicholas, 218 Ill. 2d at 121. Here, there was no error at all. Generally, prosecutors have wide latitude in the content of their closing arguments. People v. Evans, 209 Ill. 2d 194, 225 (2004). Statements must be considered in the context of the closing arguments as a whole, and counsel may comment upon defense characterizations of the evidence or case. "Further, in the context of rebuttal argument, 'when defense counsel provokes a response, the defendant cannot complain that the prosecutor's reply denied him a fair trial.'" Evans, 209 Ill. 2d at 225, quoting People v. Hudson, 157 Ill. 2d 401, 445 (1993). Comments during closing argument are reversible error only if they were both improper and so prejudicial that real justice was denied or the verdict of the jury may have resulted from the error. Evans, 209 Ill. 2d at 225. In closing, the prosecution may comment on the evidence and any fair, reasonable inferences it yields, even if such inferences reflect negatively on the defendant. Nicholas, 218 Ill. 2d at 121.

When viewing defense counsel's closing argument and the prosecution's rebuttal as a whole, it is clear that no plain error occurred. Defense counsel argued that Alex was lethargic on Wednesday, June 16, 2001, because an undetected accident caused a subdural hematoma, which led to her death five days later. We agree with the State that the rebuttal argument alerted the jury to a reasonable alternative explanation for the lethargy: Alex suffered blunt force trauma from defendant's shaking on that date. The prosecution acknowledged that it had not introduced medical evidence of a shaking on June 16 but properly argued that the jury could infer from the circumstantial evidence--Alex's lethargy--that a shaking occurred. Defendant characterizes the prosecution's comments during rebuttal as improper "other crimes evidence," when, in fact, they are merely argument based on the same evidence of Alex's lethargy on June 16 that defense counsel emphasized in closing argument.

When placed in context, it is clear that the prosecution was informing the jury that it could reasonably infer from Alex's prolonged lethargy that defendant shook her on Wednesday, June 16, 2001, as well as Monday, June 21, 2001, the date of her hospitalization. Even if the prosecution improperly characterized the evidence, the prosecution did not dwell on the possibility that defendant shook Alex on June 16. Instead, the prosecution expressly conceded that there was no scientific evidence of a shaking on that date. The prosecution properly argued that a finding of abuse on June 16 was unnecessary because the expert testimony regarding Alex's condition on June 21 was sufficient to convict.

Defendant argues that the prosecution misstated the law by saying that "[y]ou can consider circumstantially whatever you want" when reviewing the evidence of Alex's lethargy on Wednesday, June 16, 2001. The prosecution's isolated, off-the-cuff statement was imprecise but not prejudicial. Following closing argument, the trial court instructed the jury that "[c]ircumstantial evidence is the

proof of facts or circumstances which give rise to a reasonable inference of other facts which tend to show the guilt or innocence of the defendant. Circumstantial evidence should be considered by you together with all the other evidence in the case in arriving at your verdict." Defendant does not suggest that the trial court erred in instructing the jury. Thus, even if the prosecution misstated the law of circumstantial evidence, the trial court's instruction cured any defect.

We conclude that the prosecution's comments were not error, and therefore, defendant has not met her burden under the plain error doctrine and no reversal of the conviction is required.

For the preceding reasons, the judgment of the circuit court of Du Page County is affirmed.

O'MALLEY and KAPALA, JJ., concur.