Just Resolving a Capital Murder Case in Denton, Texas

Introduction [00:00:01] RTI International's Justice Practice Area Presents Just Science. Welcome to Just Science, a podcast for justice professionals and anyone interested in learning more about forensic science, innovative technology, current research and actionable strategies to improve the criminal justice system. In the final episode of our case study season Just Science sat down with Ashleigh Berg, senior forensic investigator for the Denton County Sheriff's Office, to discuss a capital murder case where a combination of a variety of forensic evidence types aided the resolution of the case. When a homicide occurs in a dynamic environment, like inside a moving vehicle that was involved in two car crashes, it can pose challenges for reconstructing the timeline of events and differentiating incident related evidence from post-incident artifacts. For a fatal shooting case that took place in Denton, Texas, forensic practitioners needed to utilize a wide range of forensic evidence such as bloodstain patterns, surveillance footage and real time tracking data to help locate the suspect and provide insight to the investigative questions in the case. Listen along as Ashleigh describes her role in collecting and analyzing evidence in this capital murder case, the importance of considering all evidence and forensic findings in the context of a case, and how a combination of physical and digital evidence was crucial in bringing this case to justice. This episode is funded by the National Institute of Justice's Forensic Technology Center of Excellence. Some content in this podcast may be considered sensitive and may evoke emotional responses or may not be appropriate for younger audiences. Here's your host, Mikalaa Martin.

Mikalaa Martin [00:01:40] Hello and welcome to Just Science. I'm your host, Mikalaa Martin, with the Forensic Technology Center of Excellence, a program of the National Institute of Justice. On today's episode, we will discuss a capital murder case that occurred in Denton, Texas, where a variety of forensic evidence, including surveillance footage, real time tracking data and bloodstain patterns, played a crucial role in locating the suspect, reconstructing the timeline of events, and answering the major investigative question in the case. Joining us today to discuss this case study is Ashgleigh Berg, a senior forensic investigator with the Denton County Sheriff's Office. Welcome to Just Science, Ashleigh. We appreciate you taking our time to sit down with us today.

Ashleigh Berg [00:02:25] I thank you for having me.

Mikalaa Martin [00:02:27] So, Ashleigh, to kick off today's episode, could you tell us a little bit about yourself and your journey to becoming a forensic investigator?

Ashleigh Berg [00:02:35] So I have been with the Denton County Sheriff's Office since December 4th of 2013. I came here from another agency where I spent three and a half years building a crime lab. I kind of always knew this is what I was going to do. It's what I went to school for. I have an associate's and bachelor's degree with split majors in forensic science and criminal psychology. And then I have a master's in forensic psychology before I went into the police academy to become a sworn law enforcement officer. I spent time in undergrad in the Tarrant County Medical Examiner's Office in human ID and AFIS. That's where I started my fingerprint training. And then also spent a year with the Grand Prairie Crime Scene Unit training in CSI before I graduated. As far as being an investigator at this, I actually my career has been very good to me. A lot of people spent years on patrol before they get the opportunity to come into the crime lab. But because of the specialized education and training that I had coming out of the academy, I was actually brought straight into CID to work in the crime lab. So I've spent the entirety of my career in

investigations and forensics and began bloodstain training, reconstruction training almost from the jump.

Mikalaa Martin [00:03:48] So you've had experience on a little bit of everything. A jack of all trades almost. That's awesome to hear. So you wear many hats, including serving as an instructor for the Texas Commission on Law Enforcement, or TCLE, serving as a course content developer and instructor for Texas A&M Texas Engineering Extension Service, or TEEX, the Texas Forensic Science Academy, and serving as a member of the Association for Crime Scene Reconstruction, or ACSR. Can you tell us a little bit about these entities and the roles that you assume on them?

Ashleigh Berg [00:04:21] So as an investigator and instructor for TCLE, that is our state agency that licenses law enforcement here in Texas. That is a license that you go to class and you get an instructor license so that you can teach here in this state. So I teach various courses, crime scene courses and other courses here to other law enforcement, which enables me to also teach for TEEX. So TEEX runs the Forensic Science Academy, which is my certificate level program where we teach other officers various aspects of forensic science. And so I get to travel the state and I teach courses in bloodstain pattern analysis, latent prints, forensic photography, crime scene investigation, various forensic topics. I also work as a subject matter expert to develop courses in those topics as well. So it's a great I love forensics and I have dedicated my life to it. So I spend my work hours working in forensics. And then when I'm off, I'm also working in forensics with organizations like ACSR, and IABPA the International Association for Blood Stain Pattern Analysts. When you rise to the expert level, one should expect their experts to be involved in professional and international organizations in their respective fields, or they purport to be an expert. That's where we are keeping up with our training and staying on the cusp of what is happening in our field. So with ACSR and Crime Scene Reconstruction, I was a member of the board of directors. I served my term there. I have now come off the board and I currently serve as the membership chair for that association.

Mikalaa Martin [00:05:53] Thanks so much for sharing additional information on that. And let's go ahead and dive into today's case study. So to provide some context for our listeners, can you provide an overview of this case and how law enforcement was first alerted to the incident?

Ashleigh Berg [00:06:08] Sure. So this case actually came in through dispatch as a crash report to the city of Denton. That kind of confuses people. I worked for Denton County, and then the city of Denton is the county seat in Denton county. And so that can be confusing. I work at the sheriff's office. This was a city of Denton case that I consulted on. So this came into the city as a crash report. Initially, a vehicle had crashed into another vehicle on Interstate 35. And then witnesses initially told dispatch that a female was seen hanging out of the open passenger door of the vehicle that a male had come out. She was pulled back in the vehicle and the vehicle drove away. A little further down I-35, this vehicle is involved in the second crash and a male is seen exiting the vehicle through the passenger side door, which is left open. And he crossed over the median, which was a concrete barrier, crossed several lanes of oncoming traffic and ran off into a wooded area. That's how the call comes in. When first responders arrived, they located a female in the front passenger seat. Her lower body was in the floor board and her upper body was in the passenger seat. And they began treating her and then discovered that she had gunshot wounds to the head. So that changed the dispatch for the call. So patrolman began looking for this male that had fled the scene. And then from there, he was seen in several places. He contacted a female at a nearby apartment complex. I believe he asked to come in and use her

phone. By this time, he was barefoot. He had several visible scratches, small injuries to his body, and she did not want to let him into her apartment. But she gave him a pair of slide shoes and she offered to get him an Uber. I think at that time she believed that he had been in some kind of fight with someone, that he was trying to get away from someone. So she gets him an Uber. He tells her he wants to go to Dallas. She orders him an Uber and he gets into the Uber and leaves the area. A little while later Denton PD is patrolling the area and a maintenance man says they saw him and he was talking to this woman at such and such apartment. They make contact with her and she says, yes, in fact, she did see him. This is what he was wearing. She gave him an Uber ride. And because of the app, they were able to see in real time, like where that Uber actually was with him in the vehicle. Uber gave him the option in the app, I believe, to contact the driver with him in the car. They decided they were not going to do that because they didn't want to create a hostage situation. Not knowing exactly what happened or what was going on. So Denton PD contacted Dallas PD, gave them the information, and Dallas PD was waiting when the suspect reached his final destination, which was a trailer park in an area of Dallas. They would find out later that his mother lived in one trailer with his sister and his grandmother lived in the trailer next door. Dallas PD was waiting when he exited the trailer and he was taken into custody when he came outside by himself. Then Denton PD arrived a short time later and they were able to do a transfer of custody at that time. In the meantime, back at the scene, the female is transported from the scene. She is pronounced deceased at the hospital. She has what they learned were three gunshot wounds to her head. The scene is processed, the cars towed, and they do find a fired cartridge case on the ground, on the highway after they tow the vehicle and then they tow the vehicle back to Denton PD for processing. The case kind of progresses from there.

Mikalaa Martin [00:09:57] That was a great overview and there is already so much happening in this case. So let's go back to the overview of you setting the stage. So there were two car accidents, a shooting, a fleeing suspect all happening on the interstate. Can you talk us through some of the forensic evidence that was uncovered throughout the investigation? I know you alluded to the cartridge case that was found outside the vehicle. The suspect's shoes were lost during his flight from the scene. Was there any other evidence that was initially recovered from the crash scene?

Ashleigh Berg [00:10:30] So from the crash scene, they, of course, recovered the vehicle. They have the one cartridge case. They had one shoe and then he left wearing 1 shoe, 1 shoe is lost. The other shoe was lost somewhere in his flight. And then the rest of the evidence is going to come as Denton PD processes the vehicle back in their sally port, they would eventually recover three fired cartridge cases from inside the vehicle. They would recover a Glock pistol from inside the vehicle. They recovered a single fired projectile from the floorboard of the driver's side of the vehicle they proceeded to remove. There was a large amount of blood staining in the vehicle because of the impacts, the front airbags and the side curtain airbags as well had all deployed. There was blood staining on the air bags as well. So all of those were collected. They removed the seats. They removed the center console. All of this is going on for several days as processing continued. This was a massive undertaking. Also while processing the car, they found a Whataburger bag. So in the crash and it kind of had been strewn about the car. But there was food from Whataburger that was still wrapped in the paper. It hadn't been eaten and it still had the grill slip on. It still had the receipt. And so detectives from Denton PD went to that Whataburger and were able to obtain video from the drive thru with a timestamp that showed the vehicle coming through with the female in the driver's seat and male in the passenger seat. So it gave them a timeline of at least everyone was alive, everyone was okay, and this is what positions I received them at this time prior to the crash. So at that

time, oddly enough, I happened to be at Denton PD. They have a very large joint training center and I was teaching a crime scene class at the Joint Training Center when all of this was going on. So they're doing their thing. And their forensic manager at the time said, hey, we have this going on. Could you come and help us document a road map, the bloodstains on the headliner of the car? I do all Denton PDs blood stain work, reconstruction work. I do that for a number of departments in the North Texas area. So that wasn't an unusual request. And I was like, Sure, no problem. Talk to our lieutenant and just let him know. I said, You know, I'm teaching this class. It's a 40 hour class. So it was all week. So the next Monday, my partner and I went over to Denton PD and everything had already been taken out of the vehicle up to and including the front seats, the console, all of that. So the first time I actually see the car, it's been dismantled. I'm just there to look at the headliner and to basically say, hey, do this, do that, take this picture, put these markers here. Because at that point in the investigation, the important thing about bloodstain documentation is you don't know which stains are going to be important. What do we need? So everything needs to be documented in a certain manner. So I was simply there to help them document those stains should they be needed later. We get that done. And in the process of doing that, we moved the seatbelt on the driver's side when the seatbelt was pulled away. That revealed two perforating defects and one ricochet defect on the driver's side b-pillar. So now we had two bullet holes. So now we're taking apart the B-pillar. Really? I'm like, look what you found. You found two bullet holes, right? Let's take this apart. So now we're taking apart the seatbelt mechanism and the b-pillar, and we ended up helping to recover two additional projectiles. And by that time, the victim has been autopsied. We do, in fact, know that she has three entry wounds on the right side of her head and three exit wounds on the left side of her head. So that corresponded with the defects we were seeing. And now we have three projectiles recovered from the car, one that they had located in the driver's floorboard, and two, that we located in the in the b-pillar. So we have three and three. That was all I had to do with it, documented that. And then I went back to my agency and mind my own business for the next year.

Mikalaa Martin [00:14:27] And so our first major takeaway for today is photo document everything. And you also spoke to the importance of thorough searching as well. So photo document everything thoroughly search. Let's go back to the fleeing suspect from the vehicle. I'm very curious to know how the connection was made between the witness accounts of seeing the suspect flee and then tracking down the woman who purchased an Uber ride for him. Can you speak a little bit to how that association was made?

Ashleigh Berg [00:14:56] So looking through Denton PD reports, they had initially set up a perimeter when they knew they were looking for this person. Several people had seen him on the highway. There were some conflicting descriptions about what he's wearing, a t shirt and shorts, and there were conflicting descriptions about what color those were. So basically, they knew they were looking for a male in t shirt and shorts, but they set up a perimeter. And so everyone that is out on patrol is looking for this man who fled. And so different officers who are in different areas are like they're out looking for anyone that they see. They were asking, have you seen anyone? Have you seen anyone? And an officer who was in that area at the apartment complex had come through like the maintenance man was outside. And so he just he asks them, Have you seen anyone? And this person was like, Well, yes, someone came through. I saw so and so talking to him, she lives over here. I know that he had come through a yard, my back yard. Someone had said, Hey, I saw him on my camera. This man came through my backyard. Here's my surveillance camera. They went and looked in his yard and there was a piece of red fabric from his shorts where it tore off when he came over the fence. They did a very good job of really

flooding that area with officers canvasing, talking to people and tracking down like what his movements were all the way through that neighborhood to find out where he had been.

Mikalaa Martin [00:16:17] And that makes the third piece of digital evidence that you've brought up belonging to this case. So we have the surveillance footage from the individuals yard who the suspect ran through the surveillance footage at the fast food chain, and then the real time tracking data from the rideshare app that was used. Can you tell us a little bit more about how this evidence. Assisted in pinning down the timeline of events and tracking down and locating the suspect.

Ashleigh Berg [00:16:44] I think as far as tracking his movements after and just really that they were able to really make a good path and then to not just have the video, but to be able to pin that with evidence collection like they have the video and then you have the physical evidence, his shorts, there's fabric on it and not knowing Did someone lay this here later, is this before? Is this important? I don't know. But we're going to collect it. Right. And then when they get him, there is going to be a tear in his shorts and it is going to be the same color. Like all of those like everything was collected. Everything was documented up to and including being able to see him in real time and talking to someone and making sure that Dallas P.D. was there when they couldn't get there in time so that they had all their bases covered and then backtracking to the Whataburger to make sure they have that video. We have a very small window of what was going on before, what was going on after. And so now we've just crunched it down to we need to know what's going on in this moment, what happened, because there was a window of time which would lead us to our investigative question, like between the time I left the Whataburger and the time they crash on the highway, was there a stop? Did we switch drivers? What happened in the vehicle? There's that time that's unaccounted for. That's when the crime happens. That's when the offense occurs, where this mass shooting happens. And so that was going to be our question. That was the question we couldn't answer.

Mikalaa Martin [00:18:01] And were you involved with providing information for that investigative question or did your work kind of end with the initial vehicle processing?

Ashleigh Berg [00:18:09] So initially I came in, I helped document the headliner, by God's grace, we find two extra bullet holes and then I'm done. I go back to my office and I go back to my normal case work. So this was in April of 21, I believe, and it is not until the next year when they're looking to trial that the D.A. is going to request a bloodstain pattern analysis of the vehicle. So then this entire case is going to find its way to my desk and then I get all of this information that I didn't have before. I didn't know any of this. I was just looking at a car. And so then for a BPA request, like all of the photographs, all of the body cam footage, all of that, then comes my way so that I can analyze the evidence and see if I can't even answer a question or not.

Mikalaa Martin [00:19:02] So let's jump into the bloodstain pattern analysis or the BPA that you performed. What was the investigative question that you were tasked with addressing and how was that question initially developed?

Ashleigh Berg [00:19:14] So I had to work with the district attorney to develop a workable investigative question when we started, of course. And what is pretty common is when I ask someone, what do you want to know? What are you hoping to learn from this? And what they want to know is or what happened. But that's a very broad question that has a lot of moving parts, and that's difficult, if not impossible to answer. What reconstruction can do for you, what bloodstain pattern analysis can do for you if we have the requisite

information, is provide a snapshot in time. We cannot create a movie of everything that happened from beginning to end. But if we have enough information, sometimes we can create snapshots, little stills at this very moment, right when this shot occurred or when this action occurred, maybe this is how your victim was positioned or this is how something happened at this very moment in time. So we really had to pare that down. And especially in this environment. Right. We have a shooting, so we have three shots being fired inside a vehicle, which is going to be a blood producing event in and of itself. But after that, we have two car crash, those large force impacts which cause airbag deployment. But we already have a blood source in that vehicle so that blood sources now hit twice with impact force from the from the crashes and the airbags and all of that movement that is going to come subsequent to the crash. Right. Is now going to disperse liquid blood inside that vehicle environment. And so we're going to have a secondary staining, right, or what we would term post incident artifact that has nothing to do with the actual shooting event. So all of that had to be paired down. And after working with the DEA about like what is really important here, what we finally came up with was who was in what position in the vehicle when those shots were fired, where was our victim sitting and where was our suspect sitting and who was doing the shooting and where were they sitting when that happened?

Mikalaa Martin [00:21:11] I really loved that film analogy of dialing back what happened to something that's more workable and actionable. For an investigative question, I'd like to dive into discussing more of the BPA work that you performed in the case. Can you talk us through that process and what you were able to find from your BPA and how that assisted in addressing the investigative question.

Ashleigh Berg [00:21:36] The first part. What I think was the most overwhelming was even deciding what is post-incident artifact in this vehicle and what is relevant to the shooting itself. And so that was really pulling myself back to the basics of bloodstain pattern analysis, which is classification of each pattern. What is the size, shape, distribution and parents location of this pattern? Let's describe it, let's classify it, and then we'll talk about it in the larger scheme of how it fits into what's happening. So I get a lot of pattern classification. And then I was able to say, okay, this doesn't have anything to do with like, I see how this was created, but it's not relevant to the shooting. And so that is how I was able to weed out what I didn't need to talk about in the report because it wasn't relevant to the investigative question. So what we ended up with was really in that front passenger compartment. There were very distinct bloodstain patterns that were relevant to that shooting event, and that started in the driver's seat. And I used all of my directions as if you were seated in the vehicle when I was talking about left and right, front and back. If you were seated in the vehicle in that driver's seat on the right side of the seat, the what we call the bolster, where it wraps around from your shoulder to your hip, there were these large volume stains that had a downward directionality. They also there was enough volume in the individual states that they had flow from them. So they weren't just striking the surface, they were striking it and there were still enough volume in this thing if it was continuing down the bolster. These stains descended down the bolster and then told me that whatever that blood source was had to be at a height, at or above the deposition of that pattern. So I knew where my blood was coming from. And it had to be a blood source that was capable of producing these large volume stains. So like, you can't cut your finger or scratch your arm. This is a large volume wound that is producing these stains. So this stain was present all down that side bolster and continued on to the plastic. The seat back adjustment hinge at the bottom of the seat. That pattern continued. That pattern actually continued onto the center console on both sides, both the driver side and across the top in the passenger side. The difference that we saw in the center console was that the lid of the center console, where you would lift up to access the the interior storage area that had

actually been displaced. So the lid to that center console was recovered in a child's car seat that was in the back seat of the vehicle. I'm looking for pattern continuity. What makes this pattern complete. So I didn't see pattern continuity across the console with that lid missing. There was blood there, but it was different blood. It was what we would call a swipe pattern. So it was it was a blood source moving across and in the little, I guess you would call them plastic teeth that would have held that lid in place. There was some hair caught in that, suggesting that like a blood source with dark hair had moved across that area and it was out of agreement with that large volume like drip flow pattern that I was seeing. But I saw pattern continuity when I put that laid back in place. So that let me know that whatever my blood source was that was pushing out this large volume pattern onto the seat bolster the console area like that was all happening with that lid in place. And then there's some force event that is taking off this lid, pushing it into the back seat. And then there's a blood source that's moving across it and also like depositing hair onto the top of that console. So that's a sequence event, right? When I looked at the rest of that seat, which has this large volume bloodstain on the right, there's some saturation staining, meaning that there's enough volume of blood that it has soaked into the absorbent material of the seat. There's saturation staining also on the right side of that seat. So relevant to in position to where those large volume stains are. But then the rest of the seat doesn't have blood staining. There's no standing on the left side. There's no standing on the seat bottom. There's no standing on the back of the seat. There's no blood anywhere except on the right side of that seat, which was important. A lot of times where blood isn't is just as important as where blood is within a scene. So that's what was going on on the right side of the seat or on the right side of the vehicle when I looked at the back of the console. So if you come off in a car right where the console sits normally right behind it, there's kind of a hump in the floor and it's covered in carpet. So where those large volume stains had continued to flow it had flown down to the carpet and the carpet there was so saturated and blood that it had actually oversaturated the carpet. There was still liquid blood. When this is documented, there's still liquid blood sitting on top of the carpet. But all of that is on on that center hump and on the right side, on the driver's side. So not towards the passenger side. Everything is towards the driver's side of that vehicle. So there's a large volume of blood and it's mainly concentrated towards the driver's right side moving across into the front passenger seat. I saw completely different staining. There was a small amount of that large volume pattern on the very bottom of the seat, just where it would be up against the center console. But then that. That pattern disappeared. I saw some some saturation in the bottom of the seat like where you would sit. But all of that saturation agreed with what I was seeing in the body cams where the victim's final resting position was. It was all low in the seat. It was where she was found, where the medics were moving her. There was no like, no staning that really was like spatter standing or active standing or just like her laying there and bleeding. And I didn't see we didn't have any of the staning that we saw on the driver's seat. So I'm starting to get an idea of like what is happening. So that's what's going on in the car. And then everything else, really in the vehicle. There was a lot of blood staining, but everything else that I saw in the car was post-incident artifact. It was caused by this now very blood stained person being hit by air bags being flung around. It wasn't relevant to the gunshot wound.

Mikalaa Martin [00:27:27] And I'll jump in here for a moment, but I would love to hear a little bit about how you were able to differentiate the incident related bloodstains and patterns from the Post incident artifacts. Can you tell us a little bit more about how this is done?

Ashleigh Berg [00:27:42] So when I'm looking at the pattern continuity of all of that in that large volume pattern, which is mechanisms we classify it back to it could either be this

mechanism or this mechanism, we can break them apart. And either way we're tied into this pattern continuity. It's only acheived with that lid in place. We know that this has to happen. Then the lid is removed. Then we see that swipe across the top with her hair in it. She's the only person that has long, dark hair. The other party in the car is very short hair. So it's not him. We're going to source that to her. Right. And then she's going to come across. The other things I was seeing in the vehicle on the headliner there was cast off. So cast off is generally in a in a very linear. We see small stains in a linear appearance or curvilinear appearance. Generally, people think of that as coming off a weapon, like as someone swings a weapon, a knife or a hammer or even a hand. We think of castoff coming that way, but castoff can also come from bloody hair. So there aren't any of those weapons in this scene. Right in that car is very small to expect someone to swing an arm in. But she is the blood source and her hair is bloody after she's shot. So then when she's in an accident, then she's hit by an airbag that's going to cause her head to swing and her hair to whip back, which is going to create cast off from the swing of her bloody hair. So I knew that all my cast off patterns were going to be post shooting related to the crash because I already have a blood source. So they don't have anything to do with her being shot they're after that. So I can rule out all my cast off, all the spatter on the air bags is going to come after the airbags were deployed. The airbags were deployed after she shot the car crashes after the gunshots. Right. So I saw a lot of transfer patterns from objects that were bloody in the car coming up and hitting the headliner or coming and hitting other areas of the car while they were bloody, because my victim is now producing blood into the environment. And then these items now become projectiles themselves because of the force of the crash. So those aren't relevant to the shooting. They are post-incident artifact. So they were ruled out. Same with the spatter on the airbags. I knew where the bullet impacts were from her shot and I knew where she had been shot. So I only expect to see back spatter and forward spatter relevant to those positions. Whether she's in the passenger seat or the driver seat spatter should be there because I know the bullet path. If I have spatter and completely unrelated positions, that's relevant to the impact from the airbag, not relevant to the bullet path. So that doesn't have anything to do with what I'm seeing. So by ruling out like what the mechanisms were, I knew that they weren't relevant to the shot. They were post incident artifact. And so we could pare down what bloodstains were important to our investigative question.

Mikalaa Martin [00:30:21] I appreciate you talking us through that process and how it was completed for this case. Let's talk a little bit more about your BPA findings. It sounds like to me you segmented the car, basically said, here's my zone or here's my puzzle piece. What were you finding throughout this? How did things maybe go together between those zones? Are you figuring out what a kind of answer would look like to that investigative question by paring it down and segmenting out the car into zones throughout your analysis?

Ashleigh Berg [00:30:53] So when you undertake like a blood stain pattern analysis, there is a manner in which you should consume information so that you reduce your bias. And so the proper way is to first consume your visual information, your photographs and classify your patterns without all of the contextual information. And of course, I have some contextual information that can't always be controlled, but with as little contextual information as possible. So I do know there's gunshots, right? I know that because I helped retrieve the projectiles. I know there are gunshots relevant to this scene. I know there's a car crash because the airbags are deployed. I know some of those things. But I first looked at all of the photographs and I'm simply classifying my patterns and seeing what I see. I see this pattern. This can be caused by these four mechanisms. I know these things. Same with the suspects clothing. Okay. I see all these things. We're looking at all

this and then consuming my autopsy data. Ok so does she have wounds sufficient to produce this pattern? Can we confirm this or not? Then going through lab reports, you know, investigative reports, witness statements are the last pieces of information you consume. Because I'm looking for scientific data, not what someone saw, what they think they heard. So there's a manner in which you consume that information to remain as objective as possible throughout your analysis. And that's what I was doing, was working through all of the photographs, all the body cams to see what are those officers catching, which did help eliminate a lot of the patterns because I was able to see what bloodstains were made by the movements that the medics made with the victim. Right? And I can rule that out because I see it being made doesn't anything to do with what I'm talking about. I don't need to look at those stains, right? So all of that kind of stuff was going on as well.

Mikalaa Martin [00:32:32] I think it's a great point that you brought up of saying, okay, let me take a moment. Let me step back and say, all right, well, what am I seeing? What is the larger context? And what is all of the evidence based information and data that I've collected telling me. I'd like to take a couple of moments to see if there were any kind of crucial or key pieces of evidence that stuck out to you during your analysis or while you were taking in all of the various data that belonged to the case.

Ashleigh Berg [00:33:01] So what was really important was, was how two things fit together. So with our victim's wounds. So she had three gunshot wounds to the right side of her head that autopsy tells us kind of a down two up trajectory from right to left. And so when they enter, they are so close together that they actually combine to form a single wound track. The doctor was not able to parse out three separate paths for those bullets as they come through and exit the other side. Yet they were distant enough that they made stippling pattern on her face. So it's not it's not a hard contact when the muzzle is within a few inches of her face. So we're talking about someone like actively pulling the trigger three times, which begs the question, is that something she's going to be able to do right in such short sequence they would form one bullet path, right? So when these bullets go through Cassidy's brain, they actually severed an artery. So arterial bleed produces large volume staining. It is going to produce a large amount of blood. That was very important to confirm the bloodletting that I was seeing on the right side of that seat. What I also was not seeing on the left side, when you have exit gunshot wounds, you expect to see forward spatter. And I want to see spatter with those wounds but I didn't see any of that. There was no spatter on the b-pillar and I knew that. So I asked this question was, how did I know that Cassidy was shot before the airbags deployed? When those curtain airbags deployed, they drop in front of that b-pillar. There was no gunshot defect in those curtain airbags. So I knew that the shooting had to happen before the first crash because the first crash deployed the airbags. So there's no spatter. There's no there's no evidence of forward spatter. Well, when I look at the autopsy photos, I see that Cassidy's wounds are very far back in her hairline and she has very long, thick hair. So hair will block spatter stains like that, because we're talking about sub millimeter stains and millimeter stain. So the very small droplets, they can't like, they're not going to weave themselves through hair. They just the first target that they hit, they stop. So I looked out with her three winds. One of the bullets had actually gone through her ear lobe first and was directional, which meant that she had to turn and tilt her head to get that bullet directionally to go into her neck from like it couldn't be straight and come in, there was a turn. So we knew that she had she had turned more in this direction, which put that artery in a position to deposit blood back towards the right side of the car, which was where I was seeing all that arterial bleeding. Then when I looked at the suspect's clothing, now, this just became a little difficult because I never saw the suspect. Right? I never saw the victim, but I also never saw the clothing. I wasn't able to physically examine the clothing myself, which would be the ideal situation.

The clothing was still at the DNA lab at the time I was asked to review the case. To make matters more difficult. He was wearing a black t shirt and red shorts, which make bloodstain work more difficult. So I just had the photographs that were taken of those clothes. So the shirt is not helpful at all because black the shorts, even though they were red, had little white stripes on the outside of both legs. And there was a white stripe on the inside of both legs. So when I looked at those, the outside of the left leg and the inside of both legs were saturated with blood, but the outside of the right leg was completely white. The next photograph, as they're collecting his clothes, he removes his shorts and he is wearing blue boxer briefs underneath, light blue boxer briefs, underneath shorts. And that was the key that turned the lock when I saw those boxer briefs on the top in the outside of his left leg. There was very heavy saturation staining. He had some saturation on the inside of his leg. He had saturation on the top of his right leg, but not in as heavy concentration as it was on the left leg. And then there's no staining on the outside of the right leg. There's no standing on the back. So what that meant is that in a seated position, the left side of his body was more heavily exposed to a blood letting event than the right side of his body, which meant that Cassidy is bleeding from her entrance wound. He had to have the left side of his body in closer proximity to that well. That meant that he had to be in the front passenger seat and she had to be in the driver's seat bleeding back onto him when she was shot. So that answered our question of who was sitting where. And especially when we combine that with the bloodstains that we saw in the vehicle, what we were seeing on his clothing was in agreement with the lack of staining we were seeing in the front passenger seat, was in agreement with the large volume staining we were seeing on the right side of the driver's seat, on the center console, like every little piece of the bloodstains all fit back together to make a complete puzzle. And we saw pattern continuity across from the driver's side all the way across to the passenger side. Once all of those were placed back together and that answered our investigative question.

Mikalaa Martin [00:38:10] And was there any other evidence that helped with placement as well or help support the conclusion that was reached in that analysis?

Ashleigh Berg [00:38:18] You know, they had tested, obviously, the clothing for DNA. Right. And we kind of knew. Right. So the blood did come back to Cassady on on his clothing. But again, they cohabitate. They, they're together. So DNA mixtures are not going to help us. They had tested his hands for GSR, but she has moved her body. Right. He's touched her. So that evidence is contaminated already. He's going to have GSR on his hands. So that's not going to help us. Even if he made a claim of her committing suicide. He's in the car when it happens. So he's exposed to that gunshot residue event. It's not going to help. It was valid. And I did point out he does have several scratches on his. He does. He is impacted by the airbag. Right. He is in a crash and then he leaves. And when he flees, he he runs across several lanes of traffic. He goes through a green belt, wooded area, and then he goes over several chain link fences. And during all of that event, from head to toe, he receives several scratches and they then be documented these injuries very well. He is bleeding. And the the actual witness who ordered him, the Uber, she did mention that she noticed he was bleeding when she when she first made contact with him. However, there is not a single wound on his body that is sufficient to produce the large volume blood staining that I was seeing in the vehicle. So whether or not those stains were tested was irrelevant because the wounds that he had are not capable of producing the large volume staining that I was seeing. So we couldn't put him at or above the height of that large pattern. And his wounds produced the stains that we saw in the car possible so we can eliminate him as the source of that blood staining simply by the wound patterns that he had.

Mikalaa Martin [00:40:05] And you've previously mentioned the limitations that you faced in your analysis. One being that you weren't able to have access to the suspect's clothing for a direct examination. Were there any other limitations that you had faced in completing your analysis?

Ashleigh Berg [00:40:21] There are always going to be limitations in any analysis, like a big one here. What we talked about was that reporting and testing and describing every bloodstain is not possible. And this would have been like a 47 page report if we talked about every blood stain. And we talk about scene alteration by first responders, that's always a limitation. There's a lot of saturation in here. So is there the possibility that there were some stains that were present on vehicle seats that then blood is deposited, saturates into the fabric and I no longer see because it's obliterated by larger saturation? Absolutely. But I did have the benefit of the body cam footage from the first responder, So I can see a lot of their actions and see these things being made. And that was very helpful. The big one here was limitations in photography, and I didn't have access to his clothing. Like I didn't analyze the car intact or from the very beginning, like in a lot of cases, like I'm limited to the photographs and the body cam that was provided. That's pretty standard for a lot of reconstructionists or for blood stain pattern analysts. You get the case file that you're given and that is what you have to work with.

Mikalaa Martin [00:41:26] And to round us out. Would you be able to share the final outcome of this case?

Ashleigh Berg [00:41:31] So we did go to trial and I testified, as did many other people, and Simeon Binion was convicted of capital murder of Cassidy and her unborn child. And so here in Texas, that carries an automatic sentence of life without the possibility of parole.

Mikalaa Martin [00:41:47] So I know we've brought up a couple throughout the case overview and your involvement in the case. There have been a lot of lessons learned and I would love to hear about as a final takeaway for today, any of the most major lessons learned that may lend insight to any forensic investigators who are listening in today.

Ashleigh Berg [00:42:07] If you feel that you're going to need any kind of expert for whatever the analysis may be, whatever you're confronted with in your case, it's always best, if you can, to include them in the documentation process as early as you possibly can. It would have been helpful. Not to the detriment of the department at all. They did an outstanding job. I work with them all the time, but it would have been helpful to to see that vehicle completely intact from the beginning instead of trying to put it back together from the pictures before some of the pieces were removed before sending items out for testing. Same thing. Hindsight's 20 20. Things we learn. And I still I learn things every day. Every time I work a case, oh I could have done that differently. Consider your sequential processing. I couldn't get my hands on the clothes. And I do a lot of BPA work on clothing and fabrics. So before that went out for DNA testing, it would have been nice to get in the lab and do some IR work with IR cameras, maybe with a microscope to see is the spatter, is this contact transfer? What kind of staining is there? Because with the black and the blue and the red fabrics, a lot of times we can observe stain patterns that are not visible to the naked eye. So maybe we could have visualized some patterns, maybe not. You know, they could have completely been saturated and not been visible at all. But, you know, we don't know. And then I think for any analyst, the big thing is just remember that analysis occurs one step at a time. Like when I first started on this case, there was blood everywhere and it was vastly overwhelming. There was a lot going on in this car. And so it was really important to pare down that investigative question and evaluate every single

piece objectively and decide what do I need? Even though this is fascinating to me as a bloodstain analyst, why does this really have to do with what we're trying to answer? And to just approach that objectively and just one bite at a time. Same way you eat an elephant, just one bite at a time.

Mikalaa Martin [00:43:58] Thanks so much for sharing all those amazing takeaways and lessons learned. I think that will be very memorable for our listeners today. Well, Ashleigh, thank you so much for sitting down with us today. It has been an absolute pleasure talking with you and getting to discuss the super fascinating case. Thank you so much. We really appreciate your time.

Ashleigh Berg [00:44:19] Absolutely. Thank you for having me.

Mikalaa Martin [00:44:21] If you enjoyed today's episode, be sure to like and follow Just Science on your platform of choice. For more information on today's topic and resources and the forensic science field, visit ForensicCOE.org. I'm Mikalaa Martin and this has been another episode of Just Science.

Speaker 2 [00:44:41] This episode concludes our 2024 case study season. Tune in next year for a season about the Aspire Project, which aims to advance service oriented policing through inclusion, relationship building and engagement. Opinions or points of views expressed in this podcast represent a consensus of the authors and do not necessarily represent the official position or policies of its funding.