

Blood Stain Pattern Analysis

DA: February 27, 1998
TO: James Crist, Steinhagen & Crist, P.L.L.P.
FR: Bob Henderson, Henderson Forensics
RE: Dunlap v. Chubb Life/Court File No. 4-96-1035

The blood stain pattern analysis herein relates to Anne Dunlap who was found dead in the trunk of her car. The car was found in a K-mart store parking lot. Dunlap had suffered multiple lacerations and stab wounds to the face, neck, and back of the head.

Prior to the completion of this report, I reviewed law enforcement scene photographs, the victims's car, home, and garage, BCA laboratory reports, police reports, police video, autopsy by medical examiner, Dunlap's clothes, and an expert report provided by Sparks Vesey, M.D.

Based on my examination of the materials stated above and based on my knowledge, skill, experience, training, and education in the field of blood stain pattern analysis, I share the following opinions:

- 1) The blood stains on the garage floor are consistent with dripped blood.
- 2) No evidence exists of projected blood stain patterns consistent with arterial bleeding, impact spatter, or cast-off blood stains in the Barber residence or on the garage floor, walls, or ceiling.
- 3) The blood stains on the garage floor do not appear to have been stepped in or left by shoes.
- 4) No evidence exists indicating that the floor of the garage was cleaned.
- 5) No evidence exists that an attempt was made to clean up or conceal any blood stain evidence in the victim's residence.
- 6) No evidence exists of projected blood stain patterns in the victim's car consistent with arterial bleeding or impact spatter.
- 7) The location of blood on the bumper of the victim's car, the lower latch of the trunk, the rubber seal of the trunk, the trunk opening, the victim's jeans, and the victim's shoes, is consistent with the victim coming into contact with a significant source of her own blood prior to being placed into the vehicle.
- 8) Based on the lack of blood evidence in the garage and residence, a conclusion cannot be made that the fatal injuries in the medical examiner's report occurred in either the victim's garage or residence.

My opinions are based on the following. I examined the photographs of the victim's garage, including photographs of several bloodstains located near the entrance to the residence directly in front of a green recycling container. These stains are consistent in size and distribution with dripped blood. The blood on the floor showed no evidence of being disturbed. There is no indication of foot imprints or smearing of the bloodstains.

In addition to a review of the garage photographs taken by the law enforcement agencies, I inspected the garage itself and found no evidence of impact spatter, cast-off or projected blood. The garage floor did not appear in the photographs or during my inspection to show any indication that it had been cleaned. Apparent bloodstains were visible on a log located near the bloodstains on the floor. An apparent bloodstain was said to be found on the door leading from the garage into the residence and that door was inspected by me at the police evidence warehouse.

Neither of the law enforcement photographs nor my inspection of the garage revealed any evidence blood on any other items within the garage, the garage walls, the garage ceiling, or any other area of the garage floor except the relatively small area of the garage floor noted above.

In examination of the law enforcement agencies photographs, reports, and my personal examination of the victim's residence, there is no evidence revealing any attempt to clean up or conceal any bloodstain evidence.

I inspected the photographs and the crime scene videos of the pavement under the victim's car which revealed no visible bloodstain evidence.

I examined law enforcement agency photographs of the victim's car and conducted my own inspection of the car which has been preserved by the Minneapolis Police Department. The carpet in the trunk of the victim's car was bloodstained near the rear of the vehicle. The bloodstain corresponds with the location of the victim's body. The stain is consistent with blood that would have drained from the victim's body. The stain is not consistent with blood projecting from the victim's body under pressure. On the driver's side of the trunk's interior, there are several linear bloodstain patterns and several contact stains. These are located above and to the side of where the victim's head was positioned. The bloodstains on the driver's side interior trunk of the victim's car are consistent with dripped blood and cast-off blood. The dripped blood, linear stains (probably cast-off) and contact stains in this area of the trunk are consistent with a dripping blood source being placed into this location.

Several items including a plastic container, a nylon bag, and an umbrella were located in the trunk near the victim. There were visible dripped blood and contact stains on these items. Dripped blood and contact stains were visible on the bumper and around the trunk opening. Several drops of blood were visible in the opening under the lower latch of the trunk, the rubber seal, and the trunk opening. There is a contact stain on the outside portion on top and underneath the rubber seal. The photographs indicated approximately eight stains on the inside

of the trunk lid. There is a general lack of blood in the front portion of the trunk and also on the passenger side of the trunk. There were no bloodstain patterns in the trunk consistent with projected or impact spatter.

The dripped blood on the rim of the trunk, the latch and bumper of the trunk are consistent with a dripping blood source being lifted above the rim of the trunk and being placed in the trunk. There are no impact spatter patterns or projected bloodstain patterns visible on the exterior of the victim's car. The contact stain on and under the rubber trunk gasket are consistent with the gasket being rolled up as a bloody object was coming into contact with it.

The victim's jeans showed several areas of contact stains on the back of the pant legs. These stains are located on the upper portion of the pant legs in the general area of the knee. An additional stain is located on the rear of the right pant leg approximately three inches from the cuff. There are several small impact spatters on or around the right rear pocket. There are several blood stains, primarily above the knee, on the front of the jeans. These stains are consistent with dripped blood and contact stains.

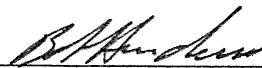
The dripped blood on the front of the victim's jeans are consistent with the victim being in a bent position, that would put the folds in the jeans, but allow for the blood to come from a location above the pocket. After the blood is deposited on the front of the jeans, but before the blood dried, the position changed creating a flow pattern toward the inside of the leg. The contact stains on the back of the jeans are consistent with something bloody coming into contact with the jeans. The impact spatter on the back pocket is consistent with a forceful impact to a blood source near the jeans. The location of the blood spatter is covered when the victim is in the car and had to occur prior to the body being placed in the trunk. There is no source of blood in the trunk explaining blood spatter on certain mid to lower areas of the jeans suggesting the blood was deposited before the victim was placed in the trunk.

The victim's shoes were not made available to me by the Minneapolis Police Department. Consequently, my analysis was based on crime scene photographs. There were bloodstains on the top and sides of the shoes. The stain were barely visible on the photographs and no determination can be made to the stain type. The left shoe has several impact spatter near the heel, on the side, and the bottom of the sole. The impact spatter was traveling towards the rear and toward the outside of the shoe.

The location of the impact spatter on the bottom and side of the left shoe indicates a forceful impact to a blood source near or on the ground to the front and right of the shoe. The lack of any blood on the victim's socks would indicate that the victim was upright wearing the shoes when the impact spatter was deposited on the shoes. The bloodstains on the sides, top, and bottom of the shoes are not consistent with the lack of blood in the area of the trunk where the feet were. The stains are consistent with a victim in an upright position or in or near a blood source outside of the trunk.

The victim's leather jacket is blood soaked on the right side of the collar, right sleeve, and the front right upper portion of the jacket. The upper left side of the jacket is bloodstained, but not as heavily as the right side. The lower portion of the left sleeve is bloodstained. The bloodstains on the back of the jacket consist contact staining and dripped blood. The victim was wearing a t-shirt under her coat and sweater. The shirt was blood-soaked around the neck and right sleeve. The front of the victim's plum-colored sweater was blood-soaked, but there was very little blood on the back of the sweater.

The blood on the car bumper, trunk latch, rubber trunk seal, portions of the victim's jeans, shoes, and "arterial spurting as would occur with a transection of a carotid artery," as described by Dr. Veasey, suggests the victim bled significantly at some unidentified location prior to being placed in the car trunk.



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