



22 October 2007

Dennis Riordan
Riordan & Horgan
523 Octavia Street
San Francisco, CA 94102

RE: Arkansas v. Echols, et al.
(FSD case 20070413)

Dear Mr. Riordan,

At your request, please permit this letter to serve as a summary of my preliminary findings regarding the above case. Although I have received a number of materials from you for review, the content of this letter is predicated upon the following items:

1. The autopsy reports of James Moore (ME-329-93), Steve Branch (ME-330-93) and Christopher Byers (ME-331-93) authored by Dr. Frank Peretti;
2. A CD containing over 1500 photographs (including multiple duplicates) of the scene of recovery of the bodies, autopsies and evidence;
3. Transcripts of two testimonies of Dr. Peretti (Bates 1779-1921 (indicated by you to have been from the Echols-Baldwin trial); no Bates stamp on the other (although indicated by you to have been from the Misskelley trial)); and
4. The transcript of testimony of Dr. Richard Jennings (Bates 3137-3169).

While you are amply aware of the circumstances surrounding the death of the three children, my understanding is as follows. The three eight-year old boys (Moore, Branch and Byers) were last seen alive in the late afternoon of May 5, 1993. They were subsequently reported missing a couple of hours later (approximately 8:00 pm) and a search was initiated by family, police and others near the same time. Their bodies were found at or near 1:30 pm on May 6 in a creek in a wooded area adjoining a bayou. No photographic documentation of the positions of the bodies prior to their removal from the creek is available. All three boys were nude with their hands bound to their ipsilateral ankles with shoelaces. Their clothing was recovered in the creek.

Again to briefly recap the findings of the autopsy reports, all of the boys had evidence of blunt force injuries (e.g. lacerations, abrasions and contusions) with the fatal blunt force injuries in all cases involving the head in which skull fractures, cerebral cortical contusions and subarachnoid hemorrhages were found. Two of the boys (Moore and Branch) also had evidence of drowning, including pulmonary edema and froth in the airways. In the absence of drowning, the blunt force injuries of the head sustained by Moore and Branch would have alone been fatal. Toxicological analyses were significant only for a therapeutic level of carbamazepine in Byers and a negligible level of ethanol in Moore.

The remainder of this letter will address my opinions about the causation of a number of injuries, presented in no particular order:

1. Each child has evidence of abrasions and contusions about the ears as well as perioral/intraoral injuries. Dr. Peretti opines that these injuries are "generally seen in children forced to perform oral sex" (transcript Echols-Baldwin trial, Bates stamp 1826). He further acknowledges that these injuries can result from a number of other mechanisms including punches, slaps and obstructing objects (e.g. hands, gags). The injuries in these areas are not in isolation, but often in proximity to other injuries. In consideration of the extensive blunt force injuries sustained elsewhere on the heads of these children, I do not think a specific mechanism (e.g. forced oral sex) can be assigned to any reasonable degree of medical certainty.
2. Anal dilatation is found in all three children. In some portions of the transcript this finding is included in the discussion of various injuries. Dr. Peretti acknowledges that this finding can be entirely attributed to postmortem relaxation. Further, he does not describe evidence of anal injury in any of the autopsy reports. Anal dilatation is a common postmortem finding and, in fact, has been studied (*Am J Forensic Med Pathol* 17(4): 289-298, 1996). Venous congestion was also a common finding in this study. Accordingly, there is no objective evidence of anal penetration in these cases.
3. The items potentially responsible for producing the scalp contusions, abrasions and lacerations are legion and the appearance of the cutaneous injuries doesn't particularly help narrow the field. However, the curvilinear skull fractures identified during Moore's autopsy are suggestive of an object with a similar curvilinear profile. The skull fractures in Branch and Byers autopsies are not as illustrative.
4. The "bell shaped" injury on the left side of the forehead of Branch was stated to have been "typical of a belt injury" (transcript Echols-Baldwin trial, Bates stamp 1836). I think this injury is more complex than that. The injury crosses the left brow ridge and is therefore on more than one plane with relative sparing of the most prominent region, the supraorbital rim. Belt buckles are rigid objects and I would expect an impact with a buckle would produce an injury above OR below

the supraorbital rim and likely involve the rim proper. Furthermore this injury appears to consist of overlapping curvilinear components which is not typical of most belt buckles in my experience.

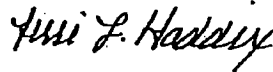
5. Injuries due to a serrated blade in each child are described in the transcripts of Dr. Peretti's testimony. The specific injuries include the diagonal injury on the right upper chest of Moore (exhibit 60A Echols-Baldwin trial, Bates stamp 1828), an injury on an extremity of Branch (exhibit 66B Echols-Baldwin trial, Bates stamp 1836) and associated with the genital and thigh injuries of Byers (exhibit 73C Echols-Baldwin trial, Bates stamp 1847). With regards to the injuries on Moore attributed to a serrated blade, my first and enduring impression is that these injuries more likely reflect abrasions produced by dragging along a roughened surface. The abrasions and contusions are typical of those I have encountered in people who have slid across a roughened surface (e.g. motor vehicle collisions). With regards to Branch's injury stated to have been a possible consequence of a serrated blade, I cannot find that this injury is documented in Dr. Peretti's report and therefore the location and dimensions of this injury are unknown. Similarly, I cannot find a description of this patterned injury in Dr. Peretti's report of Byers' autopsy. Although I cannot determine which photograph was designated exhibit 73C, I cannot find an injury in all of the submitted photographs from this autopsy that demonstrate a purported injury of this nature on Byers' inner thighs.
6. The injuries on Byers' buttocks, specifically the "cuts," photographically appear to represent abrasions rather than sharp force injuries. I think these injuries are also most compatible with dragging. In the discussion of the perianal injuries (exhibit 71C Echols-Baldwin trial, Bates stamp 1847), Dr. Peretti notes that "You have all this bleeding here in the soft tissues." Photographically there is not convincing evidence of hemorrhage into the tissues. An incision in this area (and subsequent photographic documentation) would have helped clarify this issue.
7. Sharp force injuries are described in Branch's left facial area. I think these are postmortem injuries (possibly attributable to animal depredation), superimposed upon antemortem injuries. The close-up photographs of the "cutting" injuries, which were described as entering the mouth, show characteristics which are not typical of injuries produced by a sharp edged implement. Specifically, the edges of the wounds are irregular and not cleanly incised and tissue bridges are evident within the depths of some of the wounds. As these injuries extend into the left side of the neck, I would expect to see some indication of hemorrhage within the anterior neck, rather than the described absence of abnormalities in the "soft tissues of the neck, including strap muscles, thyroid gland and large vessels . . ."
8. The sharp force injuries of the genital region and thighs in Byers' autopsy are remarkably similar in appearance: "... extensive irregular punctate gouging type injuries measuring from 1/8 to 3/4 inch and had a depth of penetration of 1/4 to 1/2 inch." Hemorrhage is noted to be associated with some but not all of these injuries. These injuries also do not have the cleanly incised edges that are typical

of injuries inflicted by a sharp edged implement. Additionally the skin surrounding this area has a yellow, bloodless appearance which is typical of postmortem abrasions. I believe the genital and thigh injuries are most compatible with postmortem animal depredation. That these are postmortem injuries would also account for the absence of blood on the banks of the creek where it was suggested in the transcript that this injury was inflicted prior to death.

9. A diagonal injury on Branch's left thigh was described as a patterned impression in the autopsy report. In his testimony (Echols-Baldwin trial, Bates stamp 1839-1840), Dr. Peretti described this area as a contusion attributed to an impact with some object. Again, photographs of this area do not clearly demonstrate the presence of hemorrhage and it is not clear why this was not described as a contusion initially. An incision (and subsequent photographic documentation) would have helped clarify this issue.
10. Curiously, Dr. Peretti states in his testimony (Echols-Baldwin trial, Bates stamp 1845) that there are postmortem injuries, however this is not further pursued either in direct or cross examination.

In summary, while I agree with the cause of death in these cases, I hold different opinions about the timing and causation of a number of the injuries. I have not completed my review of the submitted materials and I reserve the right to modify my opinions/findings. Please feel free to contact me should you wish to discuss the content of this letter.

Sincerely,



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Forensic Pathologist

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6 May 2008

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RE: Arkansas v. Echols, et al.
(FSD case 20070413)

Dear Mr. Riordan,

Please permit this letter to serve as a supplemental report of my continued review of materials received in the above case. Specifically this report addresses the review of the submitted histological sections and the production of various injuries attributed to knives.

1. Histological examination

No slide key was received or referenced for any case. Accordingly, where the slides are specifically referenced, I am making my best estimate where the section was obtained.

- a. In the (undesigned) skin sections associated with the extremities (likely slides 1-4) submitted for James Moore (ME-329-93), I found evidence of hemorrhage to some degree in all four slides. Disruption of the epidermis was found in one of the slides. The sections of anal/perianal tissue and of the testes showed no abnormalities. Dr. Peretti reported finding evidence of hemorrhage in three of the four skin slides.
- b. In the (undesigned) skin sections associated with the extremities (likely slides 1-4) submitted for Steve Branch (ME-330-93), I found evidence of hemorrhage (usually small and focal) in all four slides. There was evidence of epidermal thinning with adjacent smudging in three of the four slides, which may grossly represent areas of compression due to the ligatures. In other slides containing squamous epithelium (slides 5-7) no subcutaneous hemorrhage was found and the epithelium was intact. The

sections of anal/perianal tissue and of the testes showed no abnormalities. Dr. Peretti reported finding no evidence of hemorrhage in the skin sections associated with the ligatures (likely slides 1-4) with a focus of epidermal disruption in one of the sites. He reported finding no evidence of hemorrhage in the sections of the penis (likely slides 5-7) with a focus of epithelial disruption in one slide.

- c. In the (undesignated) skin sections associated with the extremities (likely slides 1-4) submitted for Christopher Byers (ME-331-93), I found evidence of hemorrhage in two of the four slides. In one slide there is a focus of epidermal loss (which may be artifactual) and in another section there is a focus of compressed appearing epidermis, which may grossly represent an area of compression due to a ligature. In all of the other sections, except one, no obvious hemorrhage was found. Several of these sections demonstrated significant autolytic changes with evidence of associated bacterial overgrowth and plant material. One section (slide 19), likely representing a portion of penile tissue, showed blood within vascular spaces which focally extended into the interstitium. Dr. Peretti reported no evidence of hemorrhage in any of the submitted sections in this case and found that the epidermis was intact in the sections from the extremities (likely slides 1-4).

2. Comparison of knives to selected wounds

As indicated in my earlier report, it was often difficult to discern from the trial transcripts which wounds were attributed to a knife. I will address three clusters of wounds (one from each child) in which I believe some form of patterned sharp force injury was inferred. In each circumstance, through the use of Photoshop software, the knives and wounds were similarly scaled and overlays with the various weapons and a ruler included in the original photograph of the wound were made. Efforts were made to use rulers closest to the plane of the pictured wound. For ease of reporting below, the knife with the more widely spaced serrations will be referenced as "knife A" and the knife with the variable and focally more closely spaced serrations as "knife B."

- a. A wound on the right upper chest of James Moore (ME-329-93), attached Figures 1 and 2, was compared with the provided photographs of the edges of two knives with different profiles. The injury did not exhibit a pattern compatible with that expected if produced by one of the two knives (e.g. the spacing between the serrations and the abrasions on the skin did not correlate).
- b. A wound on one of the arms of Steve Branch (ME-330-93), attached Figures 3 and 4, was compared with the provided photographs of the edges of two knives with different profiles. I believe this may be the injury which is referred to in the testimony transcript, although it was not

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described in the autopsy report. This injury (with some slight rotation of the knife blade) could have resulted from either knife blade. However, if either of these knives had been responsible for this injury, I would have expected more than two abrasions in this region associated with contact from the other serrations on the blades.

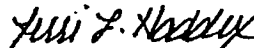
3. Wounds in the perianal region of Christopher Byers (ME-331-93), attached Figures 5-8, were compared with the provided photographs of the edges of two knives with different profiles. With regards to knife A, in neither area (left or right perineal areas) do the serrations align with the injuries on the surface of the skin. With regards to the left perineal region, the skin abrasions are separated by varying distances. In the right perineal region, if the blade had been rotated to such a degree to approximate the spacing of the skin abrasions (e.g. nearly parallel to the abrasions), I would have expected a clear incision, rather than an abrasion, to result. Additionally, similar to the injury of Steve Branch above, if this knife had been responsible for this injury, I would have expected more than two lines of abrasion in this region associated with contact from the other serrations on the blade.

In the left perineal region, similar to knife A, the injuries on the skin do not align with the serrations on knife B. In the right perineal region, there is good alignment with the most closely positioned serrations on knife B; however, given the location of this injury, I would have expected more than two lines of abrasion in this region associated with contact from the other serrations on knife B.

Concordant with my prior report, I again favor that the injury on the right upper chest of James Moore is more likely a consequence of sliding against a roughened surface than having been produced by a serrated blade. The abrasion on the arm of Steve Branch is very non-specific in nature and for the reasons cited above I doubt it was produced by either photographed knife. Lastly, as stated in my earlier report, I believe the genital and perineal injuries are more likely produced by postmortem animal depredation. I think it highly unlikely that either of the two photographed knives were responsible for the injuries in figures 5-8 for the reasons documented above.

Should you have any questions, please do not hesitate to contact me.

Sincerely,



Terri L. Haddix, MD
Forensic Pathologist

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