

**The JFK Medical Evidence:
New Light on a Lingering Forensic Controversy:**

By John Canal

The exact entry site of President Kennedy's head wound is the most perplexing medico-legal controversy stemming from the assassination. It has confounded assassination researchers and credentialed experts for decades.

Conflicting conclusions over the entry wound's location—and the tightly-associated debate over the damage to the cranium—have lingered for so long they seem irresolvable.

Factoring in a simple technique familiar to every skilled mortician, however, makes it possible to resolve the contradictions between the findings of the original pathologists and the official inquiries that revisited the medical evidence in 1968, 1975, 1978, and 1998. It is finally possible to square this particular circle and put the issue to a well-deserved rest.

The Controversy in a Nutshell

All five of the official forensic investigations have been unanimous on one point: a single, high-velocity missile entered the rear of the president's head, with the instant, gruesome results captured in the Zapruder film beginning at frame 313. Expert opinion is in disagreement about almost everything aside from that.

The three military officers/physicians who performed the postmortem on the night of November 22 placed the entry wound near Kennedy's external occipital protuberance (EOP), a little knob typically about two inches above the hairline. The autopsy report stated, "Situated in the posterior scalp approximately 2.5 cm. laterally to the right and

slightly above the external occipital protuberance is a lacerated wound measuring 15 x 6 mm. In the underlying bone is a corresponding wound”[\[1\]](#)

These prosectors also noted the grievous damage to JFK’s head. They described a large irregular defect of the scalp and skull on the right involving chiefly the [parietal bone](#) but extending somewhat into the [temporal](#) and [occipital](#) regions. (The parietal bone extends from the occipital bone, which is essentially the back of the head, to the frontal bone, essentially the forehead.) This finding was consistent with the recollections of more than 25 eyewitnesses, most of them medically-trained, who reported seeing an exit-like wound about the size of a small orange in the rear of the president’s head.[\[2\]](#)



Figure 1 is one unofficial attempt from 1967 to depict the damage to the back of the head (BOH) as described in Dr. Robert N. McClelland’s testimony before the [Warren Commission](#). McClelland’s description was one of the more precise eyewitness accounts. But accounts of the damage to this area understandably varied, as the majority of medical personnel had been preoccupied with trying to resuscitate JFK at Dallas’s Parkland Hospital.[\[3\]](#)

The BOH opening, in all likelihood, was created after the bullet’s explosive impact exposed the president’s brain through a tear in the rear scalp and an opening between two or more dislodged (but not blown-out or missing) pieces of loose rear skull. This observation is supported by the fact that the lateral X-ray shows no missing rear bone whatsoever. Dr. J. Thornton Boswell, one of the prosectors, did say in 1996 that he repositioned some bone pieces before the X-rays and photos were taken; it seems logical that he pushed some loose pieces of skull (dislodged but still adhering to the scalp) roughly back into place.[\[4\]](#)

The initial postmortem finding regarding the location of the entry wound in the head was accepted until 1968. In that year Attorney General Ramsey Clark commissioned four experts to revisit the postmortem because of a public controversy that had arisen over the findings. While the so-called Clark Panel did not have the decided advantage of examining the body directly, it was composed entirely of forensic experts, whereas only one of the prosectors had training in that specialty. Citing one X-ray in particular, these experts declared that the prosectors had incorrectly located the rear entry wound in the head. The [Clark Panel Report](#) claimed the X-ray in question revealed the entry to be as high as the area of the president’s cowlick, or almost four inches (or ten centimeters) higher than the location established back in November 1963.[\[5\]](#)



A single photographic view was also cited to underpin the Clark Panel's correction; number 42 representing that view is reproduced here as [Figure 2](#). This photograph was presumed to have been taken just after JFK's corpse arrived at Bethesda Naval Hospital, site of the autopsy, and it presumably showed the entry wound well above the EOP—in the vicinity of the president's cowlick rather than near the EOP. The Clark Panel made no mention of the dubious practice it had engaged in of using a movable body part, such as the scalp, to locate the entrance wound. Normally, as one wound-ballistics expert put it, the "location of a penetrating wound to the cranium is usually pinpointed by the cratered hole in the skull."[\[6\]](#)

The other manifest difference between the Clark Panel and the findings of the original prosecutors concerned the visible damage to the rear of the president's head. The Clark Panel reported what seemed self-evident from [Figure 2](#): aside from the cowlick entrance wound, the BOH was relatively unscathed; indeed, the scalp was apparently intact.[\[7\]](#)

The bottom line was that the Clark Panel findings did not fundamentally change the conclusion that Lee Harvey Oswald had fired the one bullet that penetrated the president's skull, in addition to the separate shot that pierced JFK's upper back. Nonetheless, the amended conclusions were stunning: assertion of a four-inch error in the entry wound, and refutation of visible BOH damage. The notion that the postmortem contained such gross errors in the first place left doubt where there should have been absolute certainty.

Two subsequent gatherings of experts endorsed the Clark Panel's findings. Vice President Nelson Rockefeller commissioned the first such group in 1975, in his capacity as chairman of the [President's Commission on CIA Activities within the United States](#). Subsequently, a Forensic Pathology Panel (FPP) was assembled in 1977 as part of the wholesale re-investigation undertaken by the [House Select Committee on Assassinations](#) (HSCA), whose [Final Report](#) was published in March 1979.

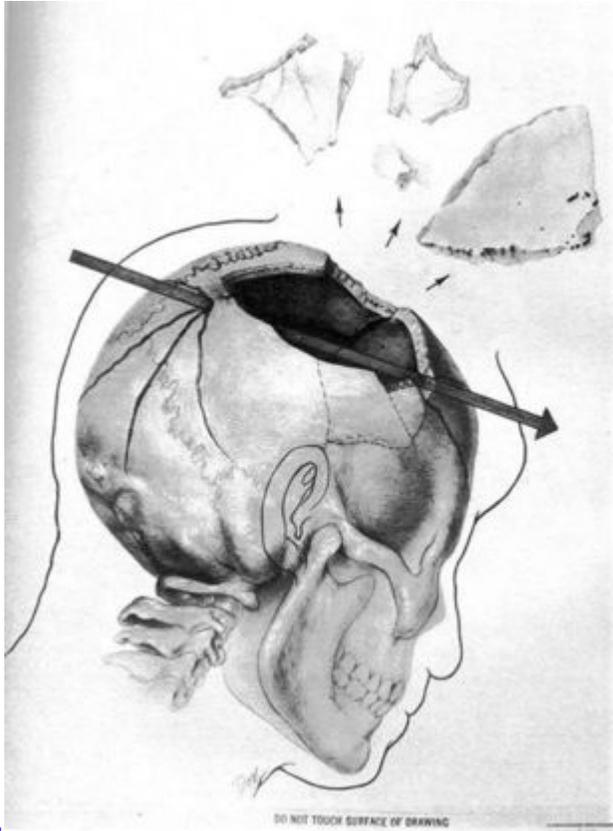
One easy way of understanding the conflicting findings as of 1979 is to compare the Warren Commission's rendering of the president's head at the moment of impact ([Figure 3](#)) with the comparable HSCA illustration ([Figure 4](#)).[\[8\]](#)



[Figure 3](#)

The clear inference, particularly in the HSCA [Final Report](#), was that the prosecutors had badly botched the original postmortem because of their lack of expertise and relative inexperience. Only one of the prosecutors (Dr. Pierre Finck) had been extensively trained as a forensic pathologist. The other two physicians acting as prosecutors (Drs. James J. Humes and J. Thornton Boswell) were general pathologists.[\[9\]](#)

As Dr. Michael Baden, the lead expert on the HSCA Panel, would later explain in his memoir, “Where bungled autopsies are concerned, President Kennedy’s is the exemplar.” Referring specifically to Dr. Humes, the Navy captain in immediate charge of the autopsy, Baden wrote that Humes “didn’t know the difference between an entrance wound and an exit wound.”[\[10\]](#)



[Figure 4](#)

The ARRB Turns Everything Upside Down

For more than a decade, the issue appeared firmly settled in favor of the Clark Panel’s findings, as endorsed by the Rockefeller and HSCA experts. This was the case despite the fact that the amended conclusions were derived solely from viewing contemporaneous photographs and X-rays, and lacked direct examination of the decedent’s body. There is a reason why the corpse is considered the “best evidence” in any murder case. And despite having the decided advantage of a first-hand evaluation, the prosecutors were deemed to have been simply mistaken—as were the many other medically-trained eyewitnesses who had described BOH wounds.

Then, in 1994, the [Assassination Records Review Board](#) (ARRB) took up the issue. The board commissioned three highly-credentialed forensic experts to take yet another look at the extant autopsy materials. And to the surprise of nearly everyone, these experts could not locate an entry wound on the lateral X-rays (including the one the Clark Panel had relied upon so heavily).[\[11\]](#)

Coincidentally, but completely independently, the ARRB findings were corroborated by Larry M. Sturdivan, a wound-ballistics expert formerly employed at the US government’s Aberdeen Proving Ground. In September 2004, Sturdivan examined the X-

rays and photographs at the National Archives. He found in the complete, enhanced lateral X-ray, “an entrance hole at the location specified by the [original] autopsy report as the site of the entry wound near the external occipital protuberance.”[\[12\]](#)

The controversy, in other words, had come full circle: the prosecutors were right after all.

While some students of the assassination might view the conflicting findings as a technicality—both are consistent with the conclusion that Oswald was the only person firing a rifle in Dealey Plaza on November 22—it is nonetheless disconcerting when successive waves of experts disagree over the most basic of points in one of the most infamous murders of the 20th century.

Resolving the Conundrum

Since expert opinion is sharply divided over what the X-rays reveal, the controversy boils down to whether a single photograph—number 42—should trump the eyewitness accounts of trained personnel who actually examined or saw the body. And in this reduced form, one can find the beginning of a resolution to what is otherwise an irreconcilable clash between experts.

Some conspiracy-minded researchers have theorized that the photograph in question, along with some others, is a fake—or that surgery was done to repair the rear of the president’s head prior to the autopsy. These suspicions are as unsubstantiated as they are bizarre. A successful explanation, nonetheless, must square the prosecutors’ original findings with what seems manifestly obvious to the naked eye in Figure 2.[\[13\]](#)

It turns out that questioning the Clark Panel’s assumption about when this photograph was taken is the key to understanding. As with the claim that [Abraham Zapruder photographed the assassination in full](#), the notion that the photograph in question was taken shortly after the corpse arrived at Bethesda turns out to be a quite understandable, but erroneous and unwarranted supposition.[\[14\]](#)

Simply put, the photograph does not reflect the true state of the rear of the head at the time the body arrived (about 7:30 PM) because the color picture was taken past midnight—after morticians had repaired most of the president’s scalp.

The president’s body was at Bethesda for approximately eight hours. That time was almost evenly divided between the autopsy and a futile attempt to make the corpse presentable for viewing (which, ultimately, was not permitted by the Kennedy family). Of the roughly four hours the body was in the hands of morticians, the great bulk of that time was naturally spent attempting a cosmetic restoration of the head.

When there is a traumatic head wound, such as the one Kennedy suffered, it is standard procedure among morticians to hide the injury by “undermining” the scalp and then stretching it over the affected area. Undermining the scalp is as unpleasant as it sounds, and morticians don’t ordinarily talk about it freely, as it is something of a trade secret. The process involves separating the much more pliable top layers of the scalp (which include the hair follicles) from the bottom layers, which include the muscles that attach the scalp to the skull and other tough tissue. After the procedure is finished though, the “stretchability” of the scalp is dramatically increased.[\[15\]](#)

And that is precisely the procedure that was performed on President Kennedy. Specifically, the cosmetic repair involved first suturing the tear in his rear scalp until it was closed, and then, after undermining, stretching the scalp until it covered the large deficit in the top/right/front of Kennedy’s head where the bullet had exited, bone was blown out, and scalp missing or badly damaged.[\[16\]](#)

The stretching of the scalp occurred after the autopsy was completed, sometime around 11 PM, and once the embalming and cosmetic restoration of the body commenced. The morticians had only the best of intentions when they took advantage of the fact that the rear scalp had only been torn, and was both repairable and useful for another purpose. They were simply trying to cover that large deficit in the head in anticipation of an open-casket funeral.[\[17\]](#)

Eyewitnesses Corroborate Key Elements

Once the practice of undermining the scalp is factored in, eyewitness testimony can be found to support the contention that this practice was the reason the president’s head wound migrated four inches.

That the discrepancy stems from misunderstanding when a certain autopsy photo was taken is an issue, unfortunately, that was never directly raised in any official questioning of the key eyewitnesses. Still, while the right question was not asked, a close reading of the record provides ample support for this explanation.

Dr. Robert Karnei was the resident physician on duty at Bethesda that evening. In Karnei’s words, he was “in and out of the morgue” while the autopsy was being performed, and provided assistance to the prosecutors whenever asked.[\[18\]](#)

In response to a query about the link between the entrance wound and the undermining of the scalp, Karnei wrote the author, “I think your conclusion regarding the change in location of the entrance wound is correct.” He went on to say that “I was not present during the entire preparation of President Kennedy by the morticians, and therefore cannot confirm the undermining, but it seems like the logical thing to do in that kind of case.”[\[19\]](#)

A number of experienced morticians were interviewed in addition to Karnei. All of them confirmed that the rear scalp indeed could have been stretched that much after undermining. Indeed, during his 1996 ARRB deposition, Dr. Humes testified that “we were able to close it [the scalp] by undermining and stretching and so forth.”[\[20\]](#)

While it seems clear that the morticians from [Joseph Gawler & Sons](#) used this technique, for the explanation to work it is also necessary to prove that the photograph in question was not taken soon after the body arrived at Bethesda. Here, too, the record—including interviews with and signed statements from autopsy photographer John Stringer—is corroborative.

In one statement, Stringer wrote, “I may have taken some pictures after midnight, but I just can’t remember, it’s been too long.” In view of Stringer’s 1996 testimony that he did not arrive at his home (not far from the morgue) until about 4 AM, however, and that cosmetic reconstruction of the head began shortly after 11 PM, the inference that he took pictures later as well as earlier is reasonable. It is also consistent with a statement in his book *MEDPHOTO* that he took photos at various times throughout the procedure and whenever he was directed to do so.[\[21\]](#)

Several other witnesses, including Dr. Karnei, support the fact that photographs were taken at various times throughout the procedure. Particularly noteworthy is the statement from Admiral George Burkley, the president’s personal physician, who, according to his own statements, supervised the autopsy. Burkley said, “There were photos taken at various stages” Similarly, FBI agent James Sibert, one of two Bureau personnel present during the autopsy, told author William Law that, “They must have taken some other pictures because they [the ARRB] showed me pictures [Figure 2, the BOH photograph] at that deposition that were neat in appearance and, boy, I don’t remember anything like that.” Numerous other witnesses also reported late photography.[\[22\]](#)

Perhaps the strongest evidence that the BOH photograph was taken late, however, is the receipt for the autopsy photographs that agent Roy Kellerman signed when he took custody of the pictures for safekeeping by the Secret Service’s Protective Research Section.

Captain John Stover, the commanding officer of the Bethesda Naval Medical Center, typed up the receipt with the original tally of 28 pictures, noting that “To my personal knowledge this is the total amount of film exposed on this occassion (sic).” Subsequently, however, Stover added more items; his handwritten notations show that film holders for twelve photographs were added to the original tally. It would seem to be more than a coincidence that there are twelve photographs in the entire inventory that show the back of the head.[\[23\]](#)

In addition to the timing of the photograph, the evidentiary value of the single X-ray relied upon so heavily by the Clark Panel—the one that allegedly showed no damage (other than fractures) to the lower rear of his head—is questionable. Had the Clark Panel interviewed the autopsy surgeons they might have learned that one of them replaced

pieces of bone, possibly in the rear of JFK's head, prior to autopsy X-rays or photographs being taken.

Finally, another way of testing the "scalp-stretching" and "late photography" theory is to juxtapose it against all the phenomena associated with the bullet that pierced the president's skull. Another hypothesis will have to square these eyewitness accounts at least as well or better:

- The original postmortem finding that the devastating bullet entered near the EOP;
- The prosecutors' description, corroborated by various eyewitness, that the BOH was not intact but exhibited damage;
- Sturdivan's 2004 report, which stated that autopsy photograph no. 45 shows the entry in the skull precisely where the autopsy doctors reported it to be;
- HSCA panel member Dr. Joseph Davis's assertion (described further below) that he had seen tiny opacities near the EOP on a lateral X-ray, which, in his opinion, constituted evidence that a bullet entered near the EOP;
- Corroboration of Dr. Davis's observation by Sturdivan and Chad Zimmerman;
- The reports by the forensic experts retained by the ARRB, who stated there was no evidence on the X-rays of any bullet entry wound in an area as high as the cowlick.

Ramifications

Apart from resolving what for decades seemed to defy explanation, the idea that cosmetic alterations were responsible for erroneous forensic conclusions raises a number of interesting questions.

The experts on the Clark Panel, had they been motivated to do so, could easily have reconciled the photography in Figure 2 with the reports of a BOH wound and the location of an entry wound near the EOP. The Clark Panel was convened just four years after the postmortem and memories were still relatively fresh amongst everyone involved.

The only explanation that seems to make sense is that extraneous political and/or personal considerations intruded on what should have been a process guided only by scientific and legal norms. The Clark Panel had an agenda to fulfill and it was not, first and foremost, to re-examine properly the JFK medical evidence. The evidence for this provocative assertion is ample.

First, consider the Clark Panel's statement that autopsy photograph no. 45 lacked contrast and clarity and therefore was not usable as evidence of the entry-wound location. (Photograph no. 45, taken from the front, shows the inside of the rear of the skull). This finding is not only false but suspicious, because the photo clearly shows the entry near the EOP. Wound-ballistics expert Sturdivan and researcher Chad Zimmerman stated that photograph no. 45 was "amazingly detailed" and "amazingly clear," respectively. For that matter, neither the Rockefeller nor HSCA experts, who endorsed the findings of the Clark

Panel, said anything in their reports about a lack of contrast and clarity in photograph no. 45.[\[24\]](#)

Secondly, the Clark Panel did not say a single word in its report about any opacities evident in the lateral X-ray taken of the EOP. These opacities, which were first mentioned by the HSCA's Dr. Davis, were, according to Sturdivan and Zimmerman, quite conspicuous, and most importantly, constituted strong evidence that the fatal bullet entered near the EOP. Sturdivan believes the opacities represent tiny pieces of skull from the beveling of the inner skull table around the perimeter of the entry.[\[25\]](#)

In retrospect, the work of the Clark Panel cannot be considered outside of its context, namely, the ongoing and controversial probe of the assassination being conducted in New Orleans by [District Attorney Jim Garrison](#). Attorney General Ramsey Clark was publicly critical of Garrison—and rightly so. Clark was undoubtedly eager to release a report that debunked Garrison's multiple-gunman scenario, after having denied Garrison's subpoena for the autopsy materials. The Clark Panel's findings (an entry wound in the vicinity of the cowlick, and no orange-sized BOH wound) ran counter to the notion of an alleged shot from the grassy knoll and were consistent with the government's "lone-assassin-firing-from-behind-and-above" conclusion.[\[26\]](#)

If nothing else, the mere timing of the Clark Panel's report is highly suggestive. Dr. Russell Fisher, the panel's lead forensic expert, signed the report on 28 March 1968, yet it was not released until 16 January 1969. That date is significant because five days later, the long-delayed trial of Garrison's primary suspect, [Clay Shaw](#), finally began.

Two groupings of experts endorsed the Clark Panel's findings, of course, and any explanation has to take that into account as well. Here other extraneous factors came into play: friendships, peer pressure, and the inclination not to damage the reputations of colleagues in the small club of forensic experts. It turns out that many of the experts on all three panels were associated with one another in ways that evidently compromised independent judgment, and disinclined them to raise or air their expert differences in public.

One revealing episode occurred during a recorded, formal discussion conducted by the HSCA's Forensic Pathology Panel (FPP); also present were two of the original prosecutors, Drs. Humes and Boswell. One of the FPP experts, Dr. Joseph Davis, described how he had seen tiny opacities near the EOP. He stated to his colleagues that this constituted evidence that a bullet had entered near the EOP. Fellow panelist Dr. George Loquvam promptly tried to end the discussion right there, saying "I don't think this discussion belongs in the record . . . This is for us to decide between ourselves; I don't think this belongs on this record." As noted earlier, the FPP's endorsement of the Clark Panel's findings did not explain away these low opacities, or even refer to them. And curiously, the enhanced lateral X-ray published by the HSCA has the area around the EOP cropped, so the opacities cannot even be seen.[\[27\]](#)

In point of fact, a complicated tangle of associations undoubtedly influenced expert opinion when it came to evaluating the work of the Clark Panel. It included the following:

- Dr. Werner Spitz, who served on both the Rockefeller Commission's and HSCA's forensic panels, trained under and worked with Dr. Russell Fisher, the lead expert on the Clark Panel. Dr. Spitz was also the co-editor with Dr. Fisher of *Medicolegal Investigation of Death*.
- Dr. Charles Petty, who was a member of the HSCA's FPP, also co-edited a book, *Forensic Pathology: A Handbook for Pathologists*, with Dr. Fisher and also trained under Fisher.
- Dr. Fisher was a student at Harvard University of forensic pathologist Dr. Alan Moritz, who served on the Clark Panel.
- Dr. Michael Baden, the lead forensic pathologist on the HSCA's FPP, contributed to Spitz and Fisher's *Medicolegal Investigation of Death*.
- Three other FPP members, Drs. John Coe, Loquvam, and Baden, were contributing authors for the Fisher and Petty co-edited volume, *Forensic Pathology: A Handbook for Pathologists*.[\[28\]](#)

The reluctance of physicians to criticize other physicians is a widespread problem (and not unknown in many other professions). Thus, it should not come as much of a surprise that various panels found it easier to criticize Drs. Humes, Boswell, and Finck who were outside their "old boy" network. Moving the entry wound up, after all, did not have fundamental repercussions.

Conclusion

This analysis does not address whether or not there was a conspiracy to assassinate President John F. Kennedy. But it does prove how the US government, beginning with the Clark Panel in 1969, misrepresented key evidence in one of the most important murder cases in our history. And that misrepresentation, in turn, has made it unnecessarily difficult to accept the government's basic finding that JFK was struck in the rear of his head by one bullet.

Such ambiguities, if not absurdities, too often characterize the official conclusions pertaining to the medical evidence in this case. In this regard the government bears a large portion of the blame for widespread skepticism about the basic conclusion of the Warren Commission, that Lee Harvey Oswald was solely responsible for all of the president's wounds.

Another re-examination of the original autopsy photographs and X-rays housed in the National Archives, by a team of qualified and impartial forensic experts, might be in order. After all, the historical record about one of this country's greatest tragedies in the 20th century should be as accurate as possible, and it currently is not.

In the meantime, there is a simple yet compelling explanation for a discrepancy that has for too long gone unexplained.

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The author would like to thank JFK researchers Paul Hoch for consulting with me on analytical and editorial matters, and Barb Junkkarinen for challenging me in 2000 to resolve these two controversies and for subsequent discussions.

[1] [Autopsy Report](#), 4.

[2] [Ibid](#); Gary L. Aguilar, “[John F. Kennedy’s Fatal Wounds: The Witnesses and the Interpretations from 1963 to the Present](#),” *Electronic Assassinations Newsletter*, Issue No. 2.

[3] [McClelland Testimony](#), 21 March 1964; Josiah Thompson, [Six Seconds in Dallas: A Microstudy of the Kennedy Assassination](#) (New York: Random House, 1967), 107; ARRB [MD264](#) (erroneously called “McClelland’s drawing”).

A full set of all the medical exhibits compiled by the ARRB (MDxxx) can be found at the Mary Ferrell Foundation website, [maryferrell.org](#). As noted at the site, “The ARRB [Master Set of Medical Exhibits](#) brings together in one place much of the most important medical testimony and documents in the JFK assassination.”

[4] Question: “So, for example was there a fragment that had fallen out at any point that you put back into its place before a photograph or X-ray was taken?” Dr. Boswell: “Yes.” [Boswell Testimony](#), 26 February 1996, 98, 99. Different images of the lateral X-ray, all of which show no missing rear bone, can be found [here](#), at [1 HSCA 240](#), and [7 HSCA 112](#).

[5] “. . . [A] hole measuring approximately 8 mm in diameter on the outer surface of the skull and as much as 20 mm on the internal surface can be seen in profile approximately 100 mm above the external occipital protuberance.” [Clark Panel Report](#), 11.

[6] [Figure 2](#) was published in Robert J. Groden, [The Killing of a President](#) (New York: Viking, 1993), 81; see also the corresponding official HSCA [\(Dox\) drawing](#), 7 HSCA 104. A similar but not identical autopsy photo was published (as a black & white image)

in David S. Lifton, [*Best Evidence: Disguise and Deception in the Assassination of John F. Kennedy*](#) (New York: Macmillan, 1980), 588.

Larry M. Sturdivan, [*The JFK Myths: A Scientific Investigation of the Kennedy Assassination*](#) (St. Paul, MN: Paragon House, 2005), 191. The Clark Panel, moreover, had criticized the prosecutors for recording the position of the wound in the president's neck from a moveable landmark, i.e., the mastoid process. Because the skull can be tilted in all directions relative to the trunk, the mastoid process is not in a fixed position relative to the back of the neck. *Ibid.*, 187.

[7] According to the Clark Panel Report, “. . . the traumatic damage is particularly severe with extensive fragmentation of the bony structures from the midline of the frontal bone anteriorly to the vicinity of the posterior margin of the parietal bone behind.” There was no mention of severe fragmentation to the occipital bone, which is posterior to the parietal bones, much less any orange-size BOH wound. Regarding the latter, the Clark Panel noted only that “there is an elliptical penetrating wound of the scalp situated near the midline and high above the hairline.” [Clark Panel Report](#), 7, 10.

[8] Source for Figure 3 is [16 WCV 984](#); source for Figure 4 is [1 HSCA 252](#).

[9] [7 HSCA 17](#). The difference between a forensic pathologist and a general pathologist bears clarification. The former are trained to analyze the cause of violent or sudden death of an outwardly healthy person. The latter are skilled only in determining the cause of a natural death, such as from a heart attack, stroke, cancer, or other disease. For Humes's certifications in anatomical and clinical pathology, see [2 WCV 348](#); for Boswell's certifications in anatomical and clinical pathology, see [2 WCV 377](#); for Finck's certifications in pathology anatomy and forensic pathology, see [2 WCV 378](#).

Although it was not ideal that only one of the prosecutors was a forensic pathologist, that was hardly the only factor that contributed to the controversial postmortem, not even the most important one. A combination of strong Kennedy family desires to finish the autopsy quickly; a military environment that hindered independent action; and a lack of clear jurisdictional and procedural guidelines all contributed to the prosecutors' failure to take measures essential for completion of a letter-perfect medicolegal autopsy.

[10] Michael M. Baden with Judith Adler Hennessee, [*Unnatural Death: Confessions of a Medical Examiner*](#) (New York: Random House, 1989), 6, 9.

[11] Appendix 43, “[Summary of Observations and Opinions of ARRB Consulting Medical Expert Dr. Douglas Ubelaker](#)”; Appendix 44, “[Summary of Observations and Opinions of ARRB Consulting Medical Expert Dr. John J. Fitzpatrick](#)”; Appendix 45, “[Summary of Observations and Opinions of ARRB Consulting Medical Expert Dr. Robert H. Kirschner](#),” on-line Appendices to Douglas P. Horne, [*Inside the Assassination Records Review Board: The US Government's Final Attempt to Reconcile the Conflicting Medical Evidence in the Assassination of JFK*](#) (Charleston, SC: Douglas P. Horne, 2009).

Washington Decoded

The [Assassination Records Review Board](#) (ARRB) was established under the Kennedy [Assassination Records Collection Act of 1992](#), which in turn, was precipitated by Oliver Stone's film *JFK*. The movie raised public ire over the continued classification of assassination-related government documents despite the passage of 30 years. ARRB, *Final Report*, 1-2.

[12] Sturdivan, *JFK Myths*, 190-191, 200-201; and Larry M. Sturdivan, "[Review of JFK Photographs and X-rays at the National Archives](#)," 2 October 2004.

[13] Groden, *Killing of a President*, 85; Lifton, *Best Evidence*, 178.

[14] [Max Holland](#) and Johann Rush, "[JFK's Death, Re-Framed](#)," *New York Times*, 22 November 2007.

[15] The scalp is so stretchable that [scalp reduction surgery](#) is sometimes used as a cure for baldness.

[16] Sturdivan does mention that the scalp was "draped back over the remaining skull," but thought that such a large displacement of the scalp would be "extreme." Nonetheless, he still concluded that "Whether the scalp defect is, indeed, the bullet entry wound is open to question." Sturdivan, *JFK Myths*, 191. In his ARRB deposition on 24 February 1996, Dr. Boswell illustrated the laceration that extended from the occipital area forward to the frontal area; ARRB [MD209](#); [Autopsy Report](#), 3.

[17] ARRB [MD182](#).

[18] Letter, [Dr. Karnei to John Canal](#), 26 January 2010.

[19] *Ibid.*

[20] Dr. Humes testified on 13 February 1996 about the scalp. When asked, "Where was the missing scalp?" Humes replied, "You got me—I don't think there was—I mean, we were able to close it by undermining and stretching and so forth. I don't recall that we didn't completely close—I think we completely closed the skin and the scalp." ARRB [Humes Testimony](#), 13 February 1996.

During [an interview](#) with Mr. Stringer by the author on 20 December 2003, he confirmed that the entry wound in the rear of JFK's head was approximately 2.5 cm to the right of and slightly above the EOP. If the entry in the skull was near the EOP and the entry in the scalp was approximately four inches above the EOP, then the scalp must have been stretched before the BOH photographs were taken.

During a [second interview](#) with Mr. Stringer by the author on 30 April 2011, he stated that he may have taken pictures after midnight when the morticians were preparing JFK's body for an open-casket funeral. In the bottom margin, Mr. Stringer signed a statement saying the entry was 2.5 cm to the right and slightly above the EOP.

[21] John Stringer, [*MEDPHOTO: Snapshots of Life in Peace & War with the US Navy*](#) (Mooresville, NC: Wishbone Creative Product Services, 2008), 37. In an ARRB interview, Stringer also said that, “We took no photos during or after the embalming.” In contrast, before that statement, he stated photos were taken “throughout the autopsy.” Since Humes stated “*We* [emphasis added] undermined and stretched the scalp,” perhaps Stringer considered that task part of the autopsy. ARRB [MD227](#), 4-5.

[22] During a 29 August 1977 HSCA interview, Dr. Karnei stated, “. . . they took a lot of photographs at various times.” ARRB [MD61](#), 6.

Other witnesses at the postmortem whose observations support late photography included Captain John Stover, an officer at the Bethesda Naval Medical Center; John Van Hoesen, one of the morticians; Joseph Hagan, supervisor of the team of morticians; Floyd Riebe, the assistant autopsy photographer; Jan Rudnicki, who assisted the autopsy doctors; General Godfrey McHugh, who observed the autopsy; Jerrol Custer, an X-ray technician; and James Jenkins, a Navy laboratory technician.

Stover: “It seems to me that the photographer, and I guess it was Mr. Stringer at the time, came back in. I think he wasn’t satisfied with some of the shots and decided that he wanted some more. He was back in more than once, I believe. In other words, the pictures weren’t taken all at one time. As I remember it, he did return to shoot a couple of extra shots.” Lifton, *Best Evidence*, 667.

Van Hoesen: “When we got up there, nothing had been started; then we had to wait for the autopsy; and then periodically, more pictures were being taken—you know, different angles and so forth; where the entry was, and so forth; this angle, and that angle” Lifton, *Best Evidence*, 666.

Hagan: He told ARRB interviewers during a 18 June 1996 interview that when he arrived with the mahogany casket, the autopsy was almost over; he only had to wait in the gallery about 20 minutes before the autopsy was concluded. The body of the president was being “cleaned up” and photos “were being taken.” ARRB [MD182](#), 3.

Rudnicki told HSCA interviewer Mark Flanagan in 1978 that personnel took photos throughout the autopsy. HSCA [Contact Report](#), 8 May 1978.

McHugh: “In my interviews with Godfrey McHugh in November 1967, he gave vivid descriptions of what seemed to be reconstruction, carried on in his presence while photographs were being taken. On this information and the changes made on the receipts, I based a theory that pictures had been created sometime after midnight in the morgue.” Lifton, *Best Evidence*, 658.

Custer: “Photographs were being taken all the time.” ARRB Deposition, 28 October 1997, 39.

Jenkins: “This photo [BOH photo] must have been taken later.” William Matson Law, *In the Eye of History: Disclosures in the JFK Assassination Medical Evidence* (Southlake, TX: JFK Lancer Publications, 2004), 94.

[23] Report of Inspection (inventory of autopsy photographs and X-rays) by Drs. Humes, Boswell, and Ebersole (chief radiologist at Bethesda), 1 November 1966, ARRB [MD13](#).

There were a total of 12 photos showing the BOH scalp, six in black & white and six in color. The former included nos. 11 and 12 (back wound, but also showed the head wound); nos. 15 and 16 (BOH wound); and nos. 17 and 18 (the entry wound inside of the skull). The color photos included nos. 38 and 39 (back wound, but also showed the head wound); nos. 42 and 43 (BOH wound); and nos. 44 and 45 (the entry wound inside of the skull).

For no apparent reason, the receipt was retyped, leaving Stover’s personal knowledge of completeness applicable to the revised total. The new receipt was “certified to be a true copy” by Stover and Admiral Galloway, and “accepted and approved” by Admiral Burkley. The implications of that certification and approval are unclear, but this change does suggest the addition of twelve photos to the initial tally.

The receipt for the autopsy photos was signed by Kellerman, Stringer, and Riebe, the assistant autopsy photographer. Particular attention should be paid to the handwritten changes adding three B&W film holders (six photos) and three color film holders (six photos) for a total of 12 added photos. The receipt was later retyped but not signed by Kellerman, Stringer, or Riebe. ARRB [MD78](#), [MD79](#).

Kellerman testified that he left the morgue with the photographs at approximately 4 AM. It’s unclear whether he left with the original or retyped receipt, or even with all the photographs; during his ARRB testimony he was unable to remember. Secret Service agent Robert Bouck told HSCA investigators that while he did receive autopsy materials from Kellerman, he believed some of the photographs and X-rays were received later. ARRB [MD56](#), [MD123](#); [7 HSCA 13](#).

[24] Sturdivan, “[Review of JFK Photographs and X-rays at the National Archives](#),” and Chad Zimmerman, “[Observations from the Archives Visit on September 23, 2004](#).”

[25] As Sturdivan put it, “The skull has a dark streak, indicating an entrance hole near the external occipital protuberance. There are also faint outlines of bone chips just inside this location” Sturdivan, *JFK Myths*, 201.

Dr. Zimmerman stated in his report on the archives visit that he and Sturdivan saw bone chips anterior to the EOP, consistent with chips that would have been blasted into the lower cranium from the entry site. Chad Zimmerman, “[Observations from the Archives Visit on September 23, 2004](#)”; see also Sturdivan, “[Review of JFK Photographs and X-rays at the National Archives](#).”

[26] It bears mentioning that in 1972, Clark wrote a glowing foreword for *Medicolegal Investigation of Death*, heaping high praise upon the book's co-editor, Dr. Fisher, and noting the broader implications of the Clark Panel's 1968 review of the JFK autopsy evidence:

The violent death of a president will always cause the deepest fears and suspicions. There will always be the allegation of gunfire from a grassy knoll. We can determine the truth, and medical science must play a major role. The coeditor of this important volume was one of four professionals I called on as attorney general, to review the autopsy photos and X-rays of our beloved president who looked 'forward to the day when America would no longer be afraid of grace and beauty.' In a time of profound doubt and international concern, with the highest integrity, self-discipline, and professional skill, Dr. Fisher contributed to those most reassuring phenomena, facts linked together pointing to truth.

Werner U. Spitz and Russell S. Fisher, eds., [*Medicolegal Investigation of Death: Guidelines for the Application of Pathology to Crime Investigation*](#) (Springfield, IL: Charles C. Thomas, 1973), xiii.

[27] [7 HSCA 255](#). Dr. Loquvam added, "You guys are nuts. You guys are nuts writing this stuff. It doesn't belong in that damn record." Ibid.

[28] Dr. Werner Spitz, "[A Tribute to the Late Russell S. Fisher](#)," *American Journal of Forensic Medicine & Pathology*, Volume 9, Issue 4, December 1988, 355-356. Spitz and Fisher, eds., *Medicolegal Investigation of Death*, 11, 13, 174; Fisher and Petty, eds., [Forensic Pathology: A Handbook for Pathologists](#) (Washington, DC: Government Printing Office), 1977, 21, 50, 117.