

Sifting the Ashes Winter 2023 Vol. 6, No. 1



“Most of the Time” is Not the Same as “Always”

A forensic autopsy and a toxicology study are essential in all fatal fires. This data can often answer questions about the cause and manner of death, but not always. While soot in the airway and high concentrations of carboxyhemoglobin (COHb) are positive signs of vitality, ten to twenty percent of fire victims in the room of origin may have low COHb and no soot in the airway. Such findings may **suggest** that the victim was dead before the fire but like a “negative corpus” cause determination, this evidence or lack thereof can lead to misunderstandings and misinterpretation. Affirmative evidence of the cause of death is always preferable.

In a 2003 study of 88 fire victims (Bohnert, et al. 2003), 27% of victims had no soot deposits in their respiratory tract. 32% of victims had COHb concentrations of less than 10%. Neither soot deposits in the respiratory tract nor COHb greater than 10% were found in 17% of the victims. They pointed out the great difficulty of assessing if the victim was

alive at the time of the fire. They point out difficulties in the elderly and sick, especially when clothing or bedding had caught fire.

In a 2001 study of 115 fire victims (Gerling, et al. 2001), 12.9% of victims showed COHB% < 10% and no soot deposition in the respiratory tract. In a study from 2002-2006 in London, 20% of victims found in the room of origin had COHb% less than 10%. Almost no cases below 10% COHb were found in victims in rooms remote from the fire origin. The study results were summarized by Purser and McAllister (2016).

The literature does not support the hypothesis that low COHb% (<10%) and a lack of soot in the respiratory tract for victims can be used to conclude that the victim died before the fire. As such, these do not represent viable means for identifying persons who were not alive at the time of the fire. These indicators can give rise to the **hypothesis** that the victim died before the fire. **However, they alone do not provide a basis for concluding that the victim died before the fire.** More direct determinations of the cause of death are required that carry the weight of conclusion rather than a mere indication of possibility.

[Bohnert, M., Werner, C., Pollak, S. \(2003\), "Problems associated with the diagnosis of vitality in burned bodies," *Forensic Science International*, 135, 197-205.](#)

[Gerling, I., Meissner, C., Reiter, A., Oehmichen, M. \(2001\), "Death from thermal effects and burns," *Forensic Science International*, 115, 33-41.](#)

Purser, D., McAllister, J. (2016), "Assessment of Hazards to Occupants from Smoke, Toxic Gases, and Heat," *SFPE Handbook of Fire Protection Engineering*, 5th Edition, Springer, Chapter 63, pp 2308-2428.

Unresolved Contradictions Lead to Miscarriages of Justice

NFPA 921, in both the origin chapter (§18.2) and the cause chapter (§19.2) instruct fire investigators to ask, “Are contradictions resolved?”

The three cases described in this issue are all cases in which the fire investigators deliberately ignored contradictions, resulting in serious errors. In one case from Baltimore, there was eyewitness testimony as well as physical evidence indicating that the fire was caused by smoking in bed. In two other cases, both from Oakland County in Michigan, investigators disregarded eyewitness testimony about where the fire started, but people believed the “experts,” and two innocent men were sent to prison for long stretches. In the smoking in bed case, which I will cover first, the defendant was lucky enough to have excellent public defenders, knowledgeable, experienced experts, and a Judge who understood the evidence.

Fire Investigators and Prosecutors Misled by the M.E.: State of Maryland vs. Eshyna Young

In the early morning hours of March 6, 2019 Eshyna Young was in her bedroom watching a YouTube video on her phone when she heard the smoke alarm. She opened the door and looked across the hall and saw her mother standing in the doorway of her bedroom on fire.

Eshyna tried to extinguish her mother with water from a dehumidifier but was not successful. She ran out of the house and immediately called 9-1-1. By the time the fire department arrived, her mother had died. The victim’s clothing was still burning when the first firefighter arrived.

Fire investigators from the city responded and within a short time were persuaded that the fire was caused by the victim, whose blood alcohol content was .39. She had started the fire by smoking in bed, as she was known to do. This conclusion was recorded on body camera video, and possibly in the fire investigator’s notes, but those notes were

destroyed “per department policy” once the fire investigator had completed his report. (NFPA 921 still, maddeningly, does not disparage such destruction of evidence. The most the Technical Committee can bring themselves to say is that retention is the “best practice.”)¹

The next day, the Medical Examiner initiated a rethinking of the cause of the fire when she reported that the victim was dead prior to the fire, and among other things, stated that she could tell the victim was lying on her back when she was burned because there was no damage to the victim’s back. Therefore, the eyewitness, Eshyna, must have lied about seeing her mother standing in the doorway. The fire cause determination was changed to incendiary based on the Medical Examiner’s conclusion. The fire investigator never returned to the scene, having spent less than two hours investigating it at night.

The insurance company sent out a private investigator five days after the fire who discovered and documented matches and a cigarette butt in the debris in the bedroom. This evidence had been overlooked by the initial investigator, who reported finding “no evidence” of smoking. The photo of the matchbook and butt is shown as **Figure 1**.



Figure 1. Insurance investigator’s photo showing burned matchbook and cigarette butt.

¹ See NFPA 921, 2021 edition at §16.3.4

The private investigator did not disclose finding the matches and cigarette butt to the city investigator but wrote in his report, “The specific ignition sequence was inconclusive; however, careless smoking or the use of an open flame by a person or persons unknown could not be eliminated.” That report was not turned over to the defense by the prosecutor but was obtained during the defense investigation.

The victim was a heavy smoker and nicotine was found in her blood when the toxicology was run. The toxicology results also revealed three significantly different concentrations of carboxyhemoglobin, the highest of which was 17%. This low COHb and lack of soot in her airway was also used to “prove” the victim was dead prior to the fire.

I was retained in March 2020 by the Maryland Office of the Public Defender (OPD), and was provided with the reports and photographs, and was surprised to see that the damage to the victim’s back was extensive. See [Figure 2](#). There were full thickness burns over most of the back, calling into question the Medical Examiner’s findings. Another Medical Examiner retained by the OPD had serious misgivings about the state medical examiners findings.



Figure 2. Extensive fire damage on the victim’s back. The burns on the victim could only have been sustained if she was upright.

Eshyna was arrested two months after the fire and held in pretrial detention with no bond for over two years but was released on bond due to the spread of COVID in the jail.

Because of the complexities of the case, the public defenders, and the defendant herself decided to waive a jury trial and have the case heard by a Judge. The trial was held over two weeks in August 2022. The Judge's decision, which can be found [at this link](#), stated, "This case exudes reasonable doubt." The Judge saw the body worn camera video and listened to testimony from the city's arson investigator and from me. He found my testimony and that of the Medical Examiner retained by the defense to be highly credible, but he was most impressed with the testimony of the Defendant who testified in her own behalf and withstood rigorous cross-examination.

The Defendant was acquitted and released from custody.

This case exemplifies the problems of contradictory evidence. Faced with the insurance investigator's finding of a matchbook and cigarette butt in the victim's bedroom, investigator posited, and the prosecution adopted, the hypothesis that the evidence of smoking may have been planted after the fire. The Judge wasn't buying it. He stated, "I do not believe for a second that those items were somehow planted there or placed there a later time." The photographs taken by the insurance investigator as well as my report were available to both the Medical Examiner and the city fire investigator for two years before the trial.

If only the fire investigator had attended the autopsy as recommended in NFPA 921,² he would have known that the Medical Examiner's observation of "no damage on the back" was incorrect. Further, as pointed out in the previous article, it is known that 10 to 20% of fire victims in the room of origin will have low COHb and possibly no evidence of soot in the airway.

² 24.5.8.1 When possible, the investigator should be present when the postmortem examination (autopsy) is conducted.

The contradictions in this case were not resolved, but fortunately the Defendant “only” lost a few years of her life awaiting trial rather than being wrongly convicted. That was unfortunately not the situation in the next two case studies. Sadly, the fire investigator was angry about Eshyna’s verdict and evidently learned nothing from the experience.

Two Arson/Murder Exonerations in Oakland County, Michigan

Convicting the Guilty is Easy.

Convicting the Innocent Requires Talent and Hard Work.

I keep up with the *National Registry of Exonerations*, which today lists 85 people being exonerated after having been wrongly convicted of arson, and usually of murder. Two cases from Michigan caught my attention this fall.

Both cases involved fire investigators who placed the origin of the fire in a different location than was related to them by neutral eyewitnesses.

These investigators’ mystical ability to read fire patterns in fully involved structures was truly astounding. But when studying the cases more closely, I saw that they were both from the same county in Michigan, and even more interestingly, both cases were prosecuted by the same individual, a man named Gregory Townsend.

Both of the wrongly convicted defendants would still be in prison were it not for the efforts of the [Michigan Innocence Clinic](#), and the excellent investigation review performed by Robert Trenkle. In one case, Bob was assisted by David Smith and in the other, Greg Gorbett helped the prosecutor reach the correct conclusion.

Although the fire investigators’ missteps were inexcusable, it was the prosecutor’s conduct that really made me think about what goes on in some American courtrooms. In the case of Anthony Kyles, eyewitnesses in the house stated that they were using an

electric space heater because their gas had been shut off. The space heater had been recently repaired by a neighbor who spliced a lamp cord onto the heater's power cord. Never a good idea.

Robert Perry and three children died in the fire, but the mother of the children escaped with three others. She reported that she became aware of the fire when her son, who was sleeping in the room with the space heater, awakened her and told her that there was a fire. Robert Perry went to the room and attempted to put the fire out.

But when the fire investigator arrived, he dismissed the heater as a possible cause because it did not exhibit any damage. He failed to notice the arcing on the power cord, however. And because the front porch was the most heavily damaged portion of the house, he put the origin there. And because the fire burned "fast" and "hot," he concluded that it must have been set with gasoline.

As is almost always the case with wrongful convictions, the laboratory analysis turned up negative. This was 1995, when false negatives were still a common occurrence.

Anthony Kyles was fingered by a man caught burglarizing a home. Keith Holliman told the police that he had watched Kyles throw a Molotov cocktail on the porch. Holliman was looking at his third felony conviction, which would be good for a life sentence in Michigan. Curiously, he was only sentenced to a year.

There was also an extensive cross-examination of Mr. Holliman who insisted he was getting nothing in exchange for his testimony. He lied, and Gregory Townsend, who put him on the stand, knew he was lying.

When the new prosecutor, Karen McDonald, took over the office in 2021, Mr. Townsend had already moved to the Michigan Attorney General's office. When his misconduct was brought to light, he was at first suspended, then fired from the AG's office. He had been working on the plot to kidnap Governor Whitmer.

It turns out this wasn't Mr. Townsend's only wrongful arson/homicide conviction. In 2006, he tried Juwan Deering. This was another case where the fire investigator discounted eyewitness testimony, this time from **three** disinterested witnesses. As with the Kyles case, the fire investigator had placed the origin of the fire on the front porch and declared that the fire was set using gasoline. As with the Kyles case, the samples came back negative. By this time, false negatives had become increasingly rare.

In order to bolster this bogus case, Townsend recruited **three** jailhouse snitches, not just one. Townsend called an Oakland sheriff's detective to testify that none of the informants received any benefits. He was extensively cross-examined and lied through his teeth.

On September 21, 2021, the new prosecutor, McDonald, and Imran Syed with the Michigan Innocence Clinic presented a joint motion to vacate Deering's conviction.

Anthony Kyles worked with the Innocence Clinic for 25 years. During that time, the informant Holliman recanted his story and said he felt terrible about getting Kyles convicted. The new prosecutor's Conviction Integrity Unit hired Dr. Greg Gorbett to review the case and he concluded that the space heater caused the fire. Kyles' conviction was not overturned until October 2022.

Gregory Townsend's misconduct has been reported to the Michigan State Police. That was over a year ago. His misconduct has also been reported to the Michigan State Bar. If there is such a thing as justice, Townsend will suffer the same fate as [Michael Nifong in North Carolina](#) and [Ken Anderson in Texas](#).

Prosecutors who engage in this misconduct need to be disciplined and disciplined harshly as an example to other prosecutors. It is this citizen's opinion that Gregory Townsend needs to lose his law license and go to prison.

A rhetorical question: What are the chances that these two cases where he got caught were the only two cases where he abused his authority as a public official?

All of the gory details of these cases are available on the National Registry of Exonerations website. Here are the links to the two cases.

[Juwan Deering in National Registry of Exonerations](#)

[Anthony Kyles in National Registry of Exonerations](#)

These two Michigan cases also highlight the problem with *confidential informants*, more accurately called jailhouse snitches. They are a common feature and a common cause of wrongful convictions. Their testimony, if it is allowed at all, should only be allowed after intense scrutiny in an evidentiary hearing, and after the prosecutor and police involved all testify under penalty of perjury that they have not provided any reward to the witnesses.

Three-day Course: Scientific Protocols for Fire Investigation

I presented my three-day course on fire investigation to the North Dakota Chapter of the IAAI in September, and to the South Bay Arson Task Force in January. Both courses were well attended and well received. The course, which includes 24 hours of tested instruction, can be arranged at your facility with a few months' notice. Just give me a call.



North Dakota Chapter of IAAI, Bismarck



South Bay Arson Task Force, Torrance, CA

A Visit to Chile



Chilean Chapter of IAAI, First ATC, Concepcion

I was honored to be invited to speak at the first Annual Training Conference of the newly formed Chapter 82 of the IAAI. I talked about the work of the [OSAC Subcommittee on Fire Investigations](#), [The Importance of Ventilation](#),* and presented some [case studies](#). Although I only spoke for half a day, the group hosted me and my wife for a week, and we got to see many interesting parts of the country including [waterfalls](#) and [active volcanoes](#). We came away with some delicious chocolate souvenirs and lots of memories. It is a wonderful place to visit.

* This file is 1.2 GB, so it can't be previewed – only downloaded.

*Scientific Protocols for Fire Investigation, Third Edition Recognized as
One of the Best Forensic Science Books of All Time!*



I'm pleased to announce that my book, *Scientific Protocols for Fire Investigation, Third Edition (Protocols in Forensic Science)*, made it onto Book Authority's list of the "Best Forensic Science Books of All Time."

Reviews of the Third Edition from Amazon.com

Dr. Craig Beyler:

[A Must-Read Book for All Fire and Explosion Investigators](#)

Scientific Protocols for Fire Investigation is a must-read for every fire and explosion investigator. John Lentini is an experienced and highly regarded fire investigator and chemist. Importantly, he is also a great writer. His use of a combination of direct explanation and case studies is very effective. Through this approach, he keeps the reader's attention and brings points home more than once. His approach to writing

allows the reader to think they discovered the concepts he amplifies through case studies, firmly cementing the concepts for the reader. It's a book you will keep on your desktop.

Steve Carman:

[A Must Have \(and Must Read\) for Fire Investigators](#)

The 3rd edition of *Scientific Protocols for Fire Investigation* is most certainly a book that professional fire investigators and those seeking a more complete understanding of the science of fire investigation should have in their library. John Lentini has presented an up-to-date digest of the science and practices at the center of our profession. In recent years, the importance of understanding the role of ventilation in structure fires has gained much attention. In this book John offers readers an easy-to-read synopsis of this science and an explanation of how and why it must be at the forefront of every investigator's mind particularly when investigating fully involved structure fires.

The advancement of NFPA 921 in the last twenty years has moved our profession in a positive direction. This book takes that progression even further towards an even more thorough approach to the practice of this important forensic science.

Steve Riggs:

[Best Edition Yet](#)

I would highly recommend this edition to anyone who wants to expand their knowledge in the area of fire investigations. I have the first and second editions, but this edition is absolutely the best of all. This is a great edition to add to your personal library.

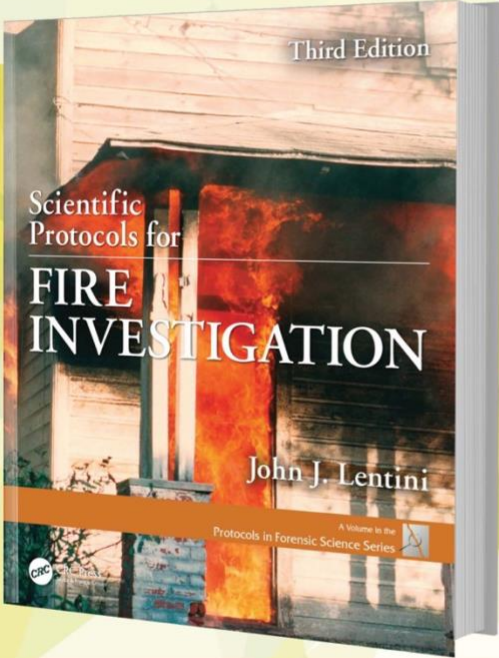

Wayne Chapdelaine:

[A Must Have Book in Every Fire Investigators Library](#)

Scientific Protocols for Fire Investigation is a text that all professional fire investigators must read.

The 3rd Edition of *Scientific Protocols for Fire Investigation* is ready!

- Completely updated including the 2017 revisions to NFPA 921
- Increased focus on the importance of ventilation
- New sections on Li-ion Batteries, CSST, MOVs, and electronics
- Contains the knowledge base you need to meet the requirements of NFPA 1033



The book is intended for those individuals who have recently entered the field of fire investigation, and those more experienced investigators who recognize their obligation to keep up with new knowledge. In addition, insurance professionals who hire fire investigators will find this an invaluable resource. Insurance companies have sustained significant losses by hiring investigators who are not qualified, resulting in cases being settled or lost at a cost of millions. Insurance adjusters and investigators will learn to recognize quality fire investigations and those that are not up to today's standards. Lastly, this book is for the many attorneys who litigate fire cases.

Learn more at www.firescientist.com

What your colleagues are saying:

This book should be required reading for all professional fire investigators and those seeking to broaden their knowledge of the field.
--Steve Carman, Carman Fire Investigations, Grass Valley, CA

Lentini's brilliant monograph gives us a giant leg up in approaching the challenges of fire investigation.
--Bernard Cuzzillo, Fire Protection Engineer, Berkley CA

The enhanced Third Edition must be found on the bookshelves of any educated fire investigator.
--Douglas J. Carpenter, Principal Engineer, Combustion Science & Engineering, Inc., Columbia MD

Curtis Tools for Heroes is offering a 20% discount off the publisher's list price. (\$79.16 with FREE shipping). Go to this [link](#).