

## The

**News of the California Association of Criminalists • Second Quarter 2015**



greg  
**LASKOWSKI**



*CAC President*

**When I became president, I made a promise to the members that I would encourage CAC members to become certified through the American Board of Criminalistics. In fact, I made this promise that I would undergo the process to become certified.**

## Promises Kept

This is my last message to you before my term ends this May as president of this fine association. This is really bittersweet for me as it seems that I finally began to get a handle on this job as president.

The year really went by too quickly. I know I still have about two plus months left in my term, but it seems that I just took office yesterday. This term, fortunately for me, has not been wrought with controversial events such as an ethics investigation that befell my predecessor.

However, there have been a number of, shall I say, interesting matters that have come before the board, most of them positive. Before I launch into a discussion of those, I would like to take this opportunity to thank those fellow board members and some other members that made my term as your president so enjoyable and rewarding.

First, Immediate Past-President Eric Halsing, he was instrumental in me running for the office of president in the first place. His dedication to not only this organization but forensic science as a whole is inspirational. Not only that, but he is a whiz at formulating policy statements, putting information out on our website, coming up with seamless online registration for our semiannual seminars, and has more than a passing understanding of Robert's Rules of Order. Eric most certainly will be missed by this board as he terms out this May.

Next, Treasurer Meghan Mannion-Gray. Meghan is indispensable for any organization that receives and disburses funds. She has a wealth of knowledge when it comes to managing the books of this association. Also, a favorite of mine is her quick turnaround time on reimbursement checks.

Recording Secretary Kirsten Fraser has done and is doing an outstanding job. She is punctual in notifying the board when committee reports are due. The minutes are posted on time and are accurate to boot. She also is a great party planner.

Michelle Halsing, our membership secretary, does an outstanding job of tracking our members, making sure dues are collected, and vetting new members. She also keeps a tight rein on our immediate past-president.

Alice Hilker is our regional director, north. She has been a great asset to the board and to this organization. Her work planning the events at the CAC/NWAFS in Rohnert Park was exceptional.

Mey Tann, our director for the south region has been a joy to work with. Her quick wit and exuberance helps make long board meetings tolerable. Hospitality Rooms at future CAC meetings could use Mey as a consultant on fun.

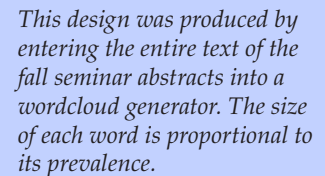
Greg Matheson is our editorial secretary. It is always a pleasure sitting in a meeting with Greg. He keeps us apprised of what will be printed in *The CACNews*. We also were privy to see live cam streams as his house was being built in Tehachapi. Greg will be leaving his post as editorial secretary. Replacing him will be a tough assignment. Greg's dedication to this profession is incredible. He brings a wealth of knowledge, not only as a criminalist, a supervisor, but as a lab director. He is a resource that I jealously guard.

Past Past-President Todd Weller deserves mention because he was past-president when I joined the board. He has great sense of humor and just as all of the previously mentioned board members is extremely dedicated to this organization. Even when he was off the board, Todd

*please turn to page 4*

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*Mignon Dunbar* ..... 12



## LASKOWSKI

could be counted to assist with various matters when help was needed.

Chris Coleman is our current president-elect and my successor. He has an enthusiasm for the CAC that is hard to match. His connections in the area firearms and toolmark analysis rank second to none. Well, there might be a tie with Todd Weller. They can work that issue out amongst themselves.

I do want to mention our seminar planning committee chair Eucen Fu. Eucen has been chair of that committee for some time now. I know he was chair before Kern County hosted its first CAC seminar back in 2012. He is one of those behind-the-scenes guys that gets so much done and receives so little credit. Eucen will be hanging it up next year, so I wanted make sure that his hard work and steadfastness is duly recognized and has been much appreciated not only by this board but past boards as well.

I wanted to give a special thanks to my friend Ray Davis. Over my thirty-plus years with the CAC I had occasion to see Ray at a number of meetings, albeit at a distance. I read his columns in the *CACNews*, and I even assisted at one of his courtroom presentation seminars that he and Lou Maucieri gave in Bakersfield several years ago. It wasn't until after the Bakersfield CAC meeting that I really got to know Ray. He has been more than helpful to me as I served my terms and president-elect and president. He has been a mentor and a friend. I really appreciate his advice.

Now, onto other matters. I have been playing tennis competitively for a number of years. For years I have had a USTA rating of 3.5. This year I got bumped up to 4.0 after playing in sectionals and regional tournaments in southern California. This, of course came as a shock to me. While we usually play one team in Bakersfield and beat them to advance to the sectionals, we get thoroughly trounced when we play teams down south. What does this mean to me? First, I am moderately successful playing at the 3.5 level locally, but a chump when I leave the boundaries of Kern County. Now that I will play at the 4.0 level, I will probably get beaten and lose matches if and when I am on a team that manages to qualify to play down south. Now I'll be playing against opponents that will probably beat me worse than when playing back home. I am no spring chicken. The legs just don't move like they used to. It hurts the next day after I play. Advil and Aleve have become my little friends. But, there is a lesson in this. If I continue to play, I more than likely will get better. I'll learn from my better opponents, and I just may win a few matches or pair up with a partner to help me win. I could also get injured, appeal to the USTA and get my 3.5 rating back. The point is we all get dealt challenges. It is up to us to get prepared and face those challenges. And perhaps with grit, determination, a little luck we can overcome those challenges and achieve some success. You won't know unless you try.

Just a few more things before I sign off. I know many of us criminalists watched the saga unfold in Ferguson, Missouri last year. We watched the talking heads as well as political activists on the various news networks espouse their theories over whether the shooting of Michael Brown was justifiable. Most of the theories bandied about were based on hearsay and speculation. One did not hear any reputable forensic scientist, particularly in the area of scene of crime reconstruction, or firearms reconstruction, speak up or speak out. Yet, there was a grand jury report issued that had crime laboratory reports. But again, our profession was mute. I ask, "Why?"

Next, a friend sends me an article from the February 2015 issue of *Reader's Digest*, which was a reprint of an article published in the *Business Insider* in April of 2014 entitled, "Crime Labs in Crisis." In it, the author paints the rosy picture of the lab technician in the show *NCIS* and then pans the overabundance of television crime dramas that portray forensic science. Then comes the indictment of the government sponsored crime labs. Basically, a rehash of fodder found in much older articles with a discussion of mountebanks that have been caught performing criminal acts or denigrating this profession. The bemoaning of 400,000 untested rape kits without a mention of grants or the successful processes involved in the elimination of the backlog. While I will admit that life in a real crime lab is not as rosy as that depicted on TV, that even in accredited labs mistakes can be made, and that analysts that are involved in criminal activity may not be caught at the outset of their nefarious activities, the system does work and eventually these people are caught and the damage done by them mitigated.

The main take that I gleaned from this article, the thought espoused by the author, is that only federal oversight can correct the misapplication of forensic science especially in public crime labs. Just as interesting is that there is no mention of funding cuts to specific grants to crime laboratories to deal with backlogs or training of its scientific staff. It just seems that we in the field of forensic science must stand by with muted voice as the responses regarding these accusations come from law school professors, academics, a smattering of judges and retired law enforcement. It seems that everyone speaks for us but us.

There is good news on the horizon. First, I would like to say that the state of the CAC is good. At our May meeting, we will have a couple of bylaws matters to deal with. One, is simply the removal of the term N/A from article Section I and a renumbering of the sections. That is straightforward. The second is deals with Article III, section 5e. This has to do with strengthening or clarifying the matter when someone is convicted of a crime and the status of their membership in this organization. This may bring some debate from some members. This is a healthy thing. It is hoped that we have some input and can vote on this to codify the section. Notices will go out to the membership well before the meeting so that a thorough review can be conducted. It appears that we will have a closer working relationship with the CACLD in so far that there has been a tentative offer to allow members of the CAC to attend some topics that will be on the agenda when CACLD meets concurrent with our meeting.

In addition, we are in the preliminary stages of negotiating with Collaborative Testing Services to provide a crime scene investigation proficiency test at our semiannual meeting in Ventura in May. Should the logistics work out, this could be a great coup for this organization, a win-win for our members, their respective laboratories, and CTS.

Lastly, I am hopeful of an eventual reintegration of the Southern California Firearms Study Group back into the Southern Section of the CAC. I am looking for firearms examiners in the south region who may want to act as chair of that subcommittee. This would mean having a meaningful dialogue with Bill Matty who currently heads the group. Having this group fully integrated with CAC would be beneficial not only to its current members but the future members and those practitioners who already are members of the CAC. As you can see I am a glass half-full kind of guy. The future for CAC still remains bright.

Oh yeah, one last thing. When I became president, I made a promise to the members that I would encourage CAC members to become certified through the American Board of Criminalistics. In fact, I made this promise that I would undergo the process to become certified. Well, as luck would have it, the ABC exam will be held on Tuesday, May 5th, thus the conflict with the board meeting is avoided. By the time you read this my application to take the certification exam for Comprehensive Criminalistics will have been received by ABC. What that means is that those of you planning to take the exam that day in Ventura will have to contend with me in the room. I purchased some of the reference books, others I had in my collection. I have been studying, which means I plan on passing the exam and earning the title of "Diplomate" behind my name. I am wishing for a good turnout, and look forward to seeing you there. For those of you who have already taken the exam, I am in need of tips. So here is a politician who keeps his promises.

Thank you for allowing me to serve as your president this year. It is my genuine heart felt desire that I have served you well and represented this office with both dignity and grace. I will continue to serve this great organization as past-president, and perhaps in some other capacity in the near future. I wish all my fellow board and committee members, those staying and those moving on, all the best. Thank your for your service. For those incoming office holders and committee members and chairs, I wish you all the best. Should you need my advice or assistance, please do not hesitate to ask me. To the rest of the membership, I hope that some of you will step forward and seek office or will offer to serve on a committee. This Association needs active and participating members. There is nothing more rewarding than to serve your colleagues and contemporaries in this fashion. If you can't serve on the board or on a committee then at least be active. Attend study group meetings, attend our bi-annual seminars, take a workshop, and/or write an article for *The CACNews*. I wish all of you the very best as we move forward and God bless.

*Gay*

**CACBITS**



### Pennie Laferty Retires

Capping off 25 years of service at the Orange Co. Sheriff-Coroner lab, former CAC President Pennie Laferty retired in January. Pennie served as CAC president from 2004-05, taking the reins from Raymond Davis and passing the coconut to Jim Stam.



### Paul Kirk Case Files Donated

The CAC historical committee has received numerous boxes of documents from cases worked by CAC founder Paul Kirk in the early 1960's. Photographs, correspondence and lab reports are among the records being scanned and preserved for future study by our forensic community.

### "CSI Effect" — Felt in Europe, Too

Abstract: The so-called 'CSI effect' was recently observed in the Italian judicial system. The reason for the increase in instances of this effect is the lack of a standard geo-archaeological procedure in conducting a forensic investigation. To avoid the harmful consequences of this lack of standardization, it is necessary to develop a robust geo-archaeological protocol for use during every crime scene investigation. Whole paper here: Barone, Di Maggio and Ferara, *International Journal of Archaeology*, 2015; 3(1-1): 45-56. Published online January 12, 2015 ([www.science-publishinggroup.com/j/ija](http://www.science-publishinggroup.com/j/ija)).

—Bob Blackledge

### LAPD SID Wins Vollmer Award

Each year the International Association of Chiefs of Police (IACP) Forensic Science Committee recognizes the significant impact forensic science has on the criminal justice system and seeks to acknowledge pioneering efforts in this field. The August Vollmer Excellence in Forensic Science Award was created to honor proactive, innovative uses of forensic technologies by law enforcement.

In 2014, the Los Angeles Police Department Serology/DNA Unit (SDU) received the August Vollmer Excellence in Forensic Science Award for developing within the SDU the Male Screen Detail to rapidly screen all of the SAK's. Now all SAK's are tested within 90 days.

In 2014 three awards were presented for ground-breaking use of existing or new forensic technologies and investigative uses of forensic science. The winners of this year's awards are: first place, the Los Angeles Police Department, Scientific Investigation Division, Serology/DNA Unit for Current or Past Contribution by a Police Agency in Forensic Science, second place, the U.S. Army, Defense Forensic Science Center for Significant Investigative Value in a Major Crime, and third place, Mr. Robert A. Walsh, President and CEO, Forensic



*please turn to page 7*

# The Start of a New Chapter for the CACNews

greg  
**MATHESON**



*CAC Editorial Secretary*

**It was interesting going back and reading what I had previously written. There is some pretty good stuff and also a fair amount of fluff. So it goes.**

It is with mixed feelings that I am announcing this will be my last editorial for the *CACNews*. I have been honored to serve on the CAC Board of Directors as your editorial secretary for three terms, a total of six years. I have thoroughly enjoyed this most recent tour of duty on the Board and would be happy to keep it going, but I believe it is in the CAC's best interests to have new talent rotate through the Board. Creating the opportunity for new ideas, new voices and more people to share in the pleasure of serving our association and giving back to the profession is important to the growth of any organization.

During the last six years it has been my pleasure to serve on the board with many dedicated professionals. Everyone on the board has worked in the best interests of the CAC and our profession. And, everyone brings to the position their unique set of experiences and capabilities. These differences in thought, approach and experiences are what make the CAC strong and progressive.

The following are the people I have been honored to work with during my tenure as editorial secretary: Presidents Mary Hong, Adam Dutra, Kevin Andera, Todd Weller, Eric Halsing, and Greg Laskowski. Recording Secretaries Jamie Miller and Kirsten Fraser. Membership Secretaries Pat Huck and Michelle Halsing. Treasurers Michael Parigian, Laura Silva and Meghan Mannion-Gray. Regional Directors North Janet Wallin, Meghan Mannion-Gray and Alice Hilker. Regional Directors South Janet Anderson-Seaquist and Mey Tann. I sincerely hope I didn't miss anyone.

It was great getting to know (or getting to know better) each and every one of these dedicated professionals.

I also want to recognize John Houde. Without John, the job of editorial secretary would be significantly more difficult and the quality of the *CACNews* would be inconsistent at best. He does all the heavy lifting when it comes to producing the *CACNews*. With his decades of experience and commitment to the CAC we have one of the best (if not THE best) newsletter produced by a forensic science professional association. I don't think anyone truly understands the amount of time and effort John dedicates to the *CACNews*. John, I thank you for making me look like I am doing a better job than I am and consistently giving the CAC a public appearance that is informative, entertaining and professional. I hope you get as much satisfaction out of a job well done as we get from the work you do for the CAC.

During the last six years I have had the opportunity to share with all of you my thoughts and opinions about our profession and the CAC. I started my most recent time on the Board in May of 2009 while still the director of the Los Angeles Police Department Criminalistics Laboratory. I am a member of several different professional associations and held leadership positions in the CAC, CACLD, ABC and ASCLD. All of those experiences have been valuable and helped influence my perspective of our profession, but it was my time with the CAC that I have cherished the most. Like many professionals working their way up the ladder of their laboratories, it is all too easy to move away from the CAC because it is more bench level oriented and to focus on supervision and management groups. Learning the tools to be a good supervisor and manager is as important as learning new analytical techniques, but it is a shame that time and focus tends to move us away from the core of our profession.

In October of 2008 I attended the fall CAC seminar in San Diego. It was the first one I attended after a several year absence. Attending that meeting was exciting and reminded me of the importance of the CAC. I knew I needed to get back involved and the editorial secretary position seemed the best way to transition back. I believe being a laboratory director and sitting on the CAC Board of Directors provided both me and the CAC with an important perspective that benefited us both.

In January 2012, my perspective changed again when I retired from the LAPD. It gave me the opportunity to finally focus on a variety of issues facing our profession which I previously didn't have the time to study and share with the *CACNews* readers.

For this, my final issue, I scanned through the previous 24 issues I had the pleasure to help prepare. My main contributions were my editorials. It was interesting going back and reading what I had previously written. There is some pretty good stuff and also a fair amount of fluff. So it goes. What I was looking for were the themes I could highlight for you in this final editorial.



The following are what I believe are the most important concepts I tried to share with readers of the *CACNews* over the years, in no particular order:

- **Quality**—The most important thing you can do as a forensic scientist is to provide the best quality product (information) you can. Utilize the best tools and procedures available to ensure the information you provide the criminal justice system is accurate and defensible. The work you do and the impact you have on other people and their lives are too important to ever be lax in the way you approach your work.
- **Be a Scientist**—Don't allow the processes or environment to turn you into someone that doesn't approach every task with the scientific method in mind. Use your brain to evaluate everything you do and don't get sucked into working like you are just a cog on a factory assembly line.
- **Look Beyond Your Bench**—Exceptional forensic scientists don't just perform tests. They embrace a generalist philosophy even as a technical specialist. They know what is happening with the broader profession technically, politically and procedurally.
- **Embrace & Understand Your Stakeholders & Competition**—You can learn from detractors, critics and competition. Keep your mind open, try and not take criticism personally, and you will always learn something from others. You can never stop learning and working to improve.
- **Don't Take Sides**—Science is impartial, science should be absolute and your work must advocate the evidence and provide information that doesn't support anything other than the whole criminal justice system.
- **Understand Bias**—Bias exists. It isn't good or bad in and of itself, it just is. Reach out and understand the unintended impact it can have on your work and help minimize its impact.
- **Get Involved**—Your profession needs you to get involved and help move it forward. Our best defense against having other people control the work we do is to be involved and show them we too want the best for our stakeholders and ourselves.
- **Embrace Your Mentors and Mentor Others**—There are many people with whom you will cross paths during your career. If you keep your mind open you will find that the help and outlook of those people will make you better than you would be without their presence. Take a moment to let them know what impact they had on your life and/or career and honor their contribution by helping others.
- **Try to be the Best You Can Be**—We are all human and stuff happens, but always try and be your best. I know I failed at this several times in my career, but by taking responsibility for my limitations and learning from them helped me in my career and my life.

Thank you all for the opportunity to serve the CAC and our profession. I hope I had an opportunity to impact and improve other professionals in our field with my ramblings. I am looking forward to the writings of our next Editorial Secretary. I am hoping the perspective provided will be new, fresh and important for the continued growth of our profession.

I am supremely optimistic about our profession and what you all will be accomplishing.

## **CACBITS** *cont'd*

Technology, Inc. for Innovation in Forensic Technology by an Individual. The winners are commended for their dedication and commitment to advancing the investigative and evidentiary uses of forensic services.

[www.theiacp.org/IACP-August-Vollmer-Excellence-in-Forensic-Science-Award](http://www.theiacp.org/IACP-August-Vollmer-Excellence-in-Forensic-Science-Award)

—Larry Blanton

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Microscopy of Illicit Drugs and Excipients

Advanced Forensic Microscopy



## **FEEDBACK** ◀ ..... ▶

### **Changing of the Guard**

It seems like only yesterday that Greg Matheson asked me to sit down with him (at the seminar in Lake Arrowhead) and describe the process of putting together the *CACNews*. He had just been elected editorial secretary and wanted to hit the ground running. What a delightful and terribly swift few years it has been. Thanks, my friend, for always having my back and contributing so much wisdom in the years since. I will miss you. Please feel free to opine as a guest on these very pages anytime the muse visits.

—John Houde



# Ethical Dilemmas

DISCUSSION CORNER WITH CAROLYN GANNETT

*"Encouraging and supporting the reporting of errors should be a primary goal of any crime lab."*

## Just Throw It Away

### Scenario

You are straightening up the evidence-processing room when you discover a loose casing on the floor. It can't be from the scene you just processed, because no casing had been collected. As a supervisor, you understand that you have the authority to handle this situation. You place the casing into an envelope and secure it inside a locker. After considering the matter, you decide the best course of action is to keep quiet and discard the item.

What ethical concepts may apply?

### Discussion Re: Discarding the Casing

This is one of those scenarios that might warrant throwing the whole ethics spreadsheet (found under the cacnews.org "Ethics" tab) at it. Instead, let's focus on just some of the ethical concepts that might apply and are also found in the CAC ethics document or ASCLD/LAB's Guiding Principles.

First, and perhaps foremost, tossing an evidentiary item seems to fly blatantly in the face of being forthcoming. The following quotes address that principle.

- *Present accurate and complete data in reports, testimony, publications and oral presentations. (ASCLD/LAB 14)*

A communication might be considered *not* "accurate and complete" without full disclosure of the casing, regardless of whether it was discarded or kept.

- *The modern scientific mind is an open one, incompatible with secrecy of method. (CAC I.C)*

While tossing evidence is not an analytical method (one would hope), it could be argued that the covert approach towards the handling of the errant casing is not in the spirit of the "modern scientific mind" being "an open one."

The situation seems to come down to this choice.

1. Toss the evidence and violate the above concepts by keeping it quiet, and take the chance that no one else finds out. That is, gamble that there will be no repercussions—either from tossing evidence or violating ethical concepts. Or:
2. Don't toss it, document and report the stray casing, fulfill these concepts, but face certain embarrassment, backlash,

and, let's face it, work. There will probably be a lot of time invested and paperwork generated as a result of this situation.

Either way, there could be a bumpy road ahead for you and your lab. The trick is to choose that road wisely. One path (#2) can be seen and has speed bumps—that is, disclose the found evidence, the lab faces the repercussions, and goes through the perhaps laborious and difficult steps to ensure such an instance does not occur again. The other road (#1) can't be seen, and is either smooth (no one ever learns you tossed the evidence and there are no repercussions) or it is riddled with potholes or even sink-holes. That is, the discarding becomes known, and now you face the same speed bumps as on the other road, plus you personally have to answer to tossing the evidence, and maybe you could even find 60 Minutes knocking on your door. To me, known speed bumps seem whole lot easier to deal with than the possibility of 60 Minutes.

And then, there's this:

- *Give utmost care to the treatment of any samples or items of potential evidentiary value to avoid tampering, adulteration, loss or unnecessary consumption. (ASCLD/LAB 11)*

How much evidence integrity is maintained when a casing is deliberately sent to rot in the local landfill? How much care is given when an item is deliberately tossed and *no* care (let alone the "utmost care") given to ensuring that such an incident does not occur again?

And another:

- *It is the duty of any person practicing the profession of criminalistics to serve the interests of justice to the best of his ability at all times. (CAC Preamble, paragraph 3)*

Discarding evidence not only does not serve justice, but could even thwart it.

### In Closing

There are several other ethical concepts that can be found to apply. This article focuses on some that are most obvious and are found in those ethics documents to which the majority of the readership answer: CAC's and ASCLD/LAB's.

Mistakes will continue to happen within crime labs. That is the nature of the business, because the business is operated by humans, and humans are fallible. What is ethically important *isn't* maintaining a façade of perfection, but cultivating and fulfilling a culture within the lab that is mindful of fallibility and actively encourages reporting errors and devising means to avoid them. Such a culture might invoke the following steps:

- **Readily admit errors, first to oneself, but also to the proper legal or administrative authorities, if appropriate.**

As a reminder, here are what the two examined ethics documents say about reporting questionable conduct.

*Report to the appropriate legal or administrative authorities unethical, illegal, or scientifically questionable conduct of other laboratory employees or managers. (ASCLD/LAB's Guiding Principles, #5)*

*It shall be ethical and proper for one criminalist to bring to the attention of the Association a violation of any of these ethical principles. Indeed, it shall be mandatory where it appears that a serious infrac-*



*tion or repeated violations have been committed and where other appropriate corrective measures (if pursued) have failed. (CAC V.F)*

- **Determine the causes of the error.**

A mistake cannot be intentionally rectified without first identifying the causes. This means *all* the causes. For example, it might be easy to point a finger at an errant new hire, and it could be tempting to let all the blame rest on the new person's ignorance. But, what about the training protocols given that person—do they need to be modified? Was supervision adequate—does a supervisor need new or retraining; do all supervisors need this? What about the technical review process—could the error have been avoided if protocols for review were modified, or perhaps the technical reviewer needs retraining? What about the hiring practices—did this new-hire slip through a loophole that needs to be plugged? And, throughout investigating the causes of an error, it is important to keep in mind that the purpose is to mitigate future errors—it is *not* to assign blame or identify scapegoats.

- **Design and implement training, methods, protocols, or procedures aimed at curtailing any future occurrence of similar incidents.**

Minimizing the possibility of errors, in my opinion, should be a primary goal of any crime lab. This relies on clear, comprehensive training, methods, protocols, and procedures being in place. And these are best honed by ferreting out their weaknesses. Errors that occur in the lab can be a clarion call to address specific weaknesses in the lab's operating procedures. As such, in my opinion, encouraging and supporting the reporting of errors should be a primary goal of any crime lab.

Errors happen. It's *so* much easier in the long run, and healthier for a crime lab, just to admit them, make corrections, and move on.

Share your thoughts and dilemmas at [www.ethicsforum.cacnews.org](http://www.ethicsforum.cacnews.org)

## FEEDBACK

### Ethics Column Stimulates Some Discussion

Carolyn Gannett's recent ethics article (*CACNews*, First Quarter 2015) stirred an old memory from the early days of my career which I will highlight later in my article.

First, let me comment on the issue concerning the involvement of the clerical/administrative staff into the work we perform. I view it as a sort of fraternization that does not serve the criminalist working in the criminal justices system. To display a murder weapon used in a high profile case, or to pass around lurid crime scene or autopsy photos does not promote the profession. Although there may not be an ethical violation inherent in Carolyn's well written example, there is a line we should not cross with the administrative staff by displaying elements of our work to them. And, if we do cross that line, what's stopping us from showing these same things to friends and neighbors?

I tend to view our actions through the prism of the courtroom venue. I can easily picture a criminalist having to explain why they showed the items of evidence to the non-technical staff. What possible answer could be offered that would satisfy an already suspicious defense attorney's natural skepticism?

I have made it my practice not to share any photos or physical evidence to the clerical staff. Even when I was in private practice, I never shared my work with my secretary and lab tech. Rephrasing an old adage to the current ethical example: "What happens at the lab bench stays at the lab bench."

Second, we should not assume the admin staff might be interested in the gritty details our work. We have been trained to conduct crime scene investigations, attend autopsies, review heart breaking case histories and examine all manner of physical evidence. They have not. Even if they seem eager to know more, I urge caution.

The following event happened in 1978 while working for the Department of Justice. My laboratory manager thought it would be a great idea to include the clerical staff in a small part of our work by having them attend court with a criminalist. Everyone believed that it would improve laboratory morale strengthening our working relationships. It was left up to each criminalist to make arrangements with one of the ladies to attend an upcoming courtroom.

The program got off to a great start with the secretary's renewed enthusiasm for their work by providing insights into our work they had never considered before. Then disaster struck. 'John' our oldest member took a much younger secretary to court one day on a DUI. 'John' did not come to work that day but his wife did. She appeared at the front desk with a menacing scowl demanding to speak with the laboratory director. She told him in a very loud, excited voice that she was very upset about her husband driving around with a young, unmarried woman regardless of the reasons. Chastened, the director cancelled the program.

Again, I urge caution. Both for the sensitivity of those not trained to deal with the elements of our work and the fallout in court should the issue arise.

—Raymond Davis  
*Raymond is the author of "Parabellum."*

# ✓ CAC BOARD OF DIRECTORS VOTER GUIDE



**Jamie Daughetee,  
Candidate for  
Regional Director, South**

**Statement:**

It is a pleasure to be nominated by the CAC for the position of regional director, south. I am excited and looking forward to potentially serving on the board for CAC. I have been a member of the CAC

for about 15 years now, where I first joined the organization as a student member while attending graduate school. Throughout the years I have attended many CAC biannual meetings, as well as study groups. Currently, I am the southern study group chair of DNA. Holding this position has been a valuable experience and there is so much that I have learned. The study group chair position has encouraged me to stay up-to-date with current topics in DNA as well as network within in the forensic community. I anticipate holding the regional director south position could only build on the positive experiences I have already had with the CAC.

Again, thank you for your nomination and consideration.



**Helena Wong,  
Candidate for  
CAC Treasurer**

**Statement:**

I am a criminalist at the Oakland Police Department Criminalistics Laboratory. I began my career there in 2009 as an intern and then as a forensic technician. I continued to pursue my passion

in forensics by joining professional associations such as the CAC in 2009, by attending as many CAC seminars and various other professional meetings as I can, and by getting certified by the American Board of Criminalistics. I served on the Financial Review Committee in 2012-2014. During this time, I was able to get a sense of the numerous tasks and responsibilities that the CAC Treasurer has and the organization and management skills that are required to maintain order of every detail. I believe that taking on new challenges is that best way to grow and improve myself. I would be honored to serve as CAC treasurer and would greatly appreciate your vote for this opportunity.



**Meiling Robinson,  
Candidate for  
Editorial Secretary**

**Statement:**

I have had the pleasure of working for the Los Angeles Police Dept. as a criminalist assigned to the Serology/DNA unit since October of 2007. I have been a CAC member since September 2006, first as a student affiliate mem-

ber while enrolled in the criminalistics master's program at CSULA, then as a full member since May 2009. After three years of serving on the Historical Committee, I was given the privilege to also serve as chair of the Historical Committee. For the past two years as chair, I have coordinated the consolidation and organization of the CAC's historical documents and archival materials. This included securing a location for the materials, hiring a professional archivist, and coordinating the inventory and processing of the materials. This has allowed the Historical Committee to be able to present materials of historical significance at CAC seminars as well as provide materials for the upcoming IAI's centennial celebration. The archival project has been on-going and although some work has yet to be completed, the materials are safely stored and the majority of the archives has been categorized and catalogued. Serving on the CAC Historical Committee has allowed me the opportunity to work closely with CAC Board members and other committee chairpersons. This collaboration has helped me develop in my career, enabling me to grow as a criminalist and as a professional in the field of forensic science. I hope to continue my service to the CAC membership by transitioning to the responsibility of editorial secretary. I am thankful to the Nominating Committee and to my fellow CAC members for this opportunity to contribute as a member of the Board of Directors. I appreciate your encouragement and support in this endeavor.



**Brooke Barloewen,  
Candidate for  
President-Elect**

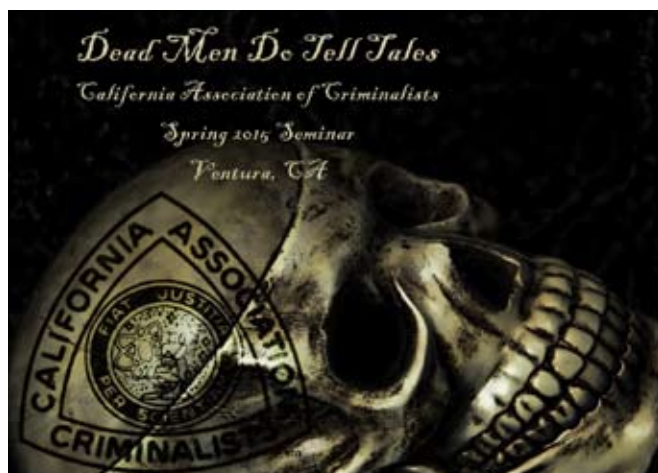
**Statement:**

After completing my chemistry degree at Cal Poly San Luis Obispo and forensic science master's degree at U.C. Berkeley, I joined the Santa Clara County Crime Laboratory in 1995. I have worked in controlled

substances, latent fingerprint development, crime scenes, hair comparison, and DNA. I am currently a supervisor in the DNA unit, the laboratory's CODIS administrator, a member of both AAFS and CACLD, an ABC General Criminalistics Fellow, and a DNA QAS Auditor.

I joined the CAC as a student member in 1994, was part of a team that hosted two CAC seminars, and served on the CAC Board of Directors as secretary from 2000-2004. Over the past 20 years as a CAC member, I have attended numerous CAC meetings, made long-lasting friendships, collaborated with my colleagues, and taught many students during their internships in the San Jose State Forensic Science program. After taking a decade-long hiatus from the CAC Board to perfect my skills of being a soccer mom and softball coach, I would like the opportunity to return to the board and serve as your CAC president.





## WORKSHOPS

### Advanced Footwear Comparison

Two-days with Helen Griffin, Kristin Rogahn, Song Wicks, Jason Kwast, Greg Laskowski, Paula Miller & Michael Zontini (Foster & Freeman). The benefits of digital comparison versus using hard copy prints will be discussed with an emphasis on establishing best practices. Photography of impressions, interpretation of wear and distortion, writing complex reports, and preparation of court displays will be covered.

### Identification of Semen and Other Bodily Fluids

Ed Jones presents a full day of lecture/lab involving sperm counting and the differentiation of saliva from vaginal secretions with the use of Lugol's iodine staining. Topics include: History of sperm identification in rape cases, male anatomy including spermatogenesis and seminal cytology, acid phosphatase, p-30, PSA (prostate specific antigen), SVSA (seminal vesicle specific antigen) techniques for detection, quantitation and interpretation of results, animal sperm, forensic criteria for sperm identification, female anatomy including exfoliative cytology of the vagina, glycogen content of vaginal and oral epithelial cells along with collection of rape evidence, slide preparation including histological staining and interpretation of sperm numbers in relation to post coital interval.

### Microscopy of Hair for DNA Analysis

Skip Palenik presents an 8-hour class, limited to twenty participants

### Testing and Toxicology of Designer Drugs

Barry Logan & Donna Papsun lead a half-day class, limited to 24 participants

### New Crime Scene Technologies

Jason Kwast, Lucinda Sullivan, & Jeff Gurvis offer a full day introducing participants to the basic concepts of speech recognition and its potential application at crime scenes and in other aspects of forensic laboratory analysis. In addition, participants will utilize iPads and tablets with the CrimePad® application to process a mock crime scene and see how to diagram a scene with the latest technology in laser scanning.

### DNA Workshop: Mixture Interpretation and Probabilistic Genotyping

Kristen Allard coordinates a full day intended to satisfy the federal quality assurance continuing education requirement. The presentations will include a variety of topics on mixture interpretation and probabilistic genotyping.

### Advanced Arson Analysis

Eric Wahoske, Harry Garvin & Frank Ogelsby give a full day interactive workshop focusing on fire and arson scene photography using and expanding on the guidelines outlined in the NFPA 921. The role of the canine in fire investigation, from the scene to the courtroom, the accelerant detection canine and handler are included topics. Also planned is a Fire Debris Analysis Roundtable discussion including salient topics of interest such as the recent Ignitable Liquids CTS Proficiency Test. Interesting casework anomalies challenging testimony and an ignitable liquid reference swap.

### Alcohol Drinking Study

Chrystal Craver directs a full day, hands-on workshop including having subjects drive in the Ventura County Sheriff's Office Training Academy driving simulators before and after drinking a known quantity of alcohol. The subjects will have at least four sessions in the simulator; two prior to consumption of alcohol as a baseline and two after consuming alcohol. The attendees will act as handlers for the drinking subjects, recording all the information for the subject including drinking information, breath results and monitoring their wellbeing. The handlers will have a brief session on how to use the Intoxilyzer Alcosensor V-XL point of arrest system to check the alcohol concentration of their subject. Driving errors will be recorded for each time on the simulator and the before and after drinking results will be compared.

### Forensic Use of High-Speed Photography

Jim Roberts & Song Wicks lead a full day, informal experimental session in conjunction with Vision Research Inc. and will be located off-site at the Rose Valley Range. Participants are invited to submit experiments to be conducted in front of the cameras and bring the materials needed to carry out their experiment with them.

### Analysis of Designer Drugs Using Complementary Analytical Techniques

John Hellgeth & Ekong Bassey present a half-day workshop covering comprehensive workflow for analysis of designer drugs by GCIR, GCMS and GC-MSMS. Most designer drugs can be easily analyzed and identified by GCMS when in pure form. These drugs pose some challenges when in mixture with some chiral isomeric compounds. Due to these challenges such mixture will require multiple sample prep and multiple analytical techniques for identification and verification.

This study will present a comprehensive technique utilizing Thermo Fisher Scientific GCIR, Thermo Fisher Scientific GCMS (single quad) and Thermo Fisher Scientific GC-MSMS (Triple quad) as complementary tools for compound identification and verification of designer drugs.



# Let's Get Naked?

## Interesting DNA results from RSID™ -Saliva Negative Cases

Mignon Dunbar M.S.<sup>1</sup>

### Background

Based on my casework experience, I know that analysts may rely on presumptive biological screening results to determine the next step in the analysis of evidence. For example, a positive presumptive test for semen may lead analysts to perform a differential DNA extraction or a positive presumptive test for saliva may lead analysts to perform a DNA extraction. While analysts frequently observe samples that produce positive presumptive biological screening results generate positive DNA analysis results, we often think that *negative* presumptive biological screening results will only provide *negative* DNA analysis results. However, solely relying on negative presumptive saliva screening test results to determine the next step in sample analysis may lead analysts to prematurely halt further sample processing, resulting in a loss of potentially probative genetic information.

The presumptive test for saliva that I use in my casework is the Rapid Stain Identification (RSID™)-Saliva test from Independent Forensics, which is a presumptive test for amylase (a component of saliva) since it is designed to detect  $\alpha$ -amylase. Based on the RSID™-Saliva developmental validation paper by Old and colleagues (2009), the RSID™-Saliva test is sensitive enough to detect less than 1 $\mu$ L of human saliva. If human salivary amylase is present in the sample, an antigen-antibody complex will form at the test line of the cassette, while the control line captures mouse antibodies. The complexes that form are visualized by red bands and there is no correlation between band intensity and the amount of amylase present in a sample. The authors of the developmental validation noted a correlation of positive RSID™-Saliva results with positive DNA results, and hoped that it might aid analysts in choosing the best samples to process for DNA analysis. However, the authors did not determine if there was a correlation between negative RSID™-Saliva results and positive DNA results, which is why my study is important.

### Casework Examples

To demonstrate that samples producing negative results in a presumptive saliva test can generate positive DNA results, I would like to share three of my case experiences as examples. In these cases, after extracting the DNA from the samples, I used the Quantifiler® Human Quantification Kit from Life Technologies, ABI Prism® 7000 Sequence Detection System, AmpFISTR® COfiler and/or Profiler Plus® kit from Life Technologies, and the ABI Prism® 310 Genetic Analyzer.

In case #1, a victim reported being sexually assaulted by two men (suspects 1 and 2) over a two-to-three day period. Suspect 1 bit the victim on the right and left sides of her neck. There was oral copulation of suspect 1 by the victim, with ejaculation on the victim's face. Suspect 1 also vaginally penetrated the victim with his penis (condom used). Additionally, there was oral copulation of suspect 2 by the victim, where ejaculation occurred in the victim's mouth. The victim suffered a loss of consciousness and loss of memory. After the assault and being released by the suspects, the victim showered and washed her face with a wash cloth. The victim then proceeded to have consensual sex with her boyfriend. After this, the victim went to the Rape Treatment Center (RTC) where the nurse observed bite marks and bruising on the right and left sides of the victim's neck. The nurse collected oral swabs and bite marks swabs from the victim.

Table 1. Case #1 Biological Screening Results

Sample	Sperm cells present?	Nucleated cells present?	Non-Nucleated present?	Presumptive test for saliva
Oral swabs	No	Yes	Yes	Not tested
Bite mark swabs (left side of neck)	No	Yes	Yes	Positive
Bite mark swabs (right side of neck)	No	No	Yes	Negative

Since an obvious bite mark was noted on the right side of the neck and swabs were collected by the RTC nurse, but tested negative with RSID™-Saliva, I was curious to see what type of DNA results I could obtain. Specifically, I wanted to know whether I would detect the victim's DNA, foreign DNA, or no DNA. I then proceeded to perform a DNA extraction on both the left and right neck bite marks swabs. I obtained approximately 27ng of DNA from the left neck bite mark swabs and approximately 3ng of DNA from the right neck bite mark swabs. The victim and her boyfriend were included in both the left and right neck bite marks swabs.

After obtaining the DNA results, I had several thoughts: 1) DNA foreign to the victim was detected in a sample that tested negative using a presumptive saliva test, 2) I had a potential to miss probative information if I had decided not to perform DNA testing on a sample that gave negative presumptive saliva results, and 3) the RTC nurse's observations/notes and the victim's reporting of the incident assisted me in determining how I was going to proceed regarding testing in this case.

In case #2, a victim reported being sexually assaulted by two male suspects (suspects 1 and 2). Suspect 1 penetrated the victim's vagina using his finger. The victim was unsure if another object or the suspect's penis was also used to penetrate her vagina. Suspect 2 licked the right side of the victim's neck and penetrated the victim's vagina and anus with his penis. The victim stated that she did not have any loss of consciousness or loss of memory. The victim did not shower after the

<sup>1</sup>San Francisco Police Department Criminalistics Laboratory

Presented at the October 2014 Fall Joint California Association of Criminalists/Northwest Association of Forensic Scientists Seminar in Rohnert Park, CA.

assault, but rather she went directly to the RTC, where a nurse collected vaginal swabs, cervical swabs, rectal swabs, anal swabs, and right neck swabs (based on history). Additionally, the victim stated that she had consensual sex two days prior to her assault.

**Table 2. Case #2 Biological Screening Results**

Sample	Sperm cells present?	Nucleated cells present?	Non-Nucleated present?	Presumptive test for saliva
Vaginal swabs	Yes	Yes	Yes	Not tested
Cervical swabs	Yes	Yes	Yes	Not tested
Rectal swabs	No	Yes	Yes	Not tested
Anal swabs	No	Yes	Yes	Not tested
(R) Neck swabs	No	Yes	Yes	Negative

The vaginal and cervical swabs, which were extracted using a differential DNA extraction process, showed a mixture of DNA from at least two individuals (one of which was unknown male #1). Based on my previous casework experience from case #1, I proceeded with the DNA testing for the right neck swabs. I obtained approximately 4ng of DNA and a mixture of DNA from at least three individuals on the right neck swabs - the victim, unknown male #2, and at least one trace individual. The right neck swabs sample was the only one with unknown male #2's DNA profile.

In case #3, a victim was sexually assaulted by one suspect who possibly digitally penetrated her vagina. The victim remembered that the male suspect had his hands in her pants and he was touching the "front" of her vagina. Because the victim had a loss of consciousness and loss of memory, she was unsure if licking, kissing, or any other acts occurred during the assault. The victim showered after the assault and the next day went to the RTC, where the nurse collected vaginal swabs, perianal swabs, right and left neck swabs, and abdomen swabs. The victim also stated that she had consensual sex four days prior to the assault.

**Table 3. Case #3 Biological Screening Results**

Sample	Sperm cells present?	Nucleated cells present?	Non-Nucleated present?	Presumptive test for saliva
External Vag swabs	No	Yes	Yes	Negative
Internal Vag swabs	No	Yes	Not Noted	Not tested
Perianal swabs	No	Yes	Not Noted	Negative
(R) Neck swabs	No	Yes	Yes	Negative
(L) Neck swabs	No	Yes	Yes	Negative
Abdominal swabs	No	No	Yes	Negative

Based on previous successful experiences of obtaining potentially probative results from samples that tested negative using a presumptive test for saliva, I performed DNA testing on the body swabs: right neck swabs, left neck swabs, and the abdomen swabs. In each of the body swabs there was 4ng of DNA, a mixture of at least two individuals, and the same unknown male was detected.

## Lessons Learned from Casework Examples

From these cases, I have learned: 1) the importance of reading the incident reports and the RTC nurse's observations, 2) solely relying on presumptive screening test results may cause analysts to prematurely stop testing, which in turn

may lead to analysts missing probative genetic information, 3) a negative presumptive test for saliva *does not* mean there is no foreign DNA present, and 4) showering after a sexual assault *does not* mean there is no foreign DNA present. The phenomenon of obtaining DNA results after exposure to water was documented in a paper by Sweet and Shutler (1999), where a decedent was submerged in a river for 5.5 hours with a slow moving current. The authors were able to obtain a mixture of DNA from a bite mark on the victim's body.

To date, I have performed DNA extractions on twenty-eight samples that have provided RSID™ -Saliva negative results. Eighteen of those samples had either no DNA detected or the profiles developed were consistent with the victim, *but ten samples (over 35%) produced DNA foreign to the victim*. The detected foreign DNA could be coming from: 1) epithelial cells still present from mouth contact, but the amylase enzyme has dissipated or is below the detection limit, 2) nucleated cells from body parts, other than the mouth, or 3) cell-free DNA also known as "naked" DNA (Quinones and Daniel, 2012; Vandewoestyne et. al, 2013). Since four samples tested negative in a presumptive test for saliva and no nucleated cells were observed during the microscopic examination, I considered the "naked" DNA as a possible source of the foreign DNA detected.

Quinones and Daniel (2012) describe the presence of cell-free DNA and performed an experiment in which sweat was collected from participants. The authors centrifuged the cells, separated the cells from the supernatant, took the supernatant through a DNA analysis process, and obtained full and partial DNA profiles. Cell-free DNA was also documented in a paper by Vandewoestyne and colleagues (2013). In this paper, the scientists were not able to obtain cell-free DNA from sweat, but they did find cell-free DNA in blood, saliva, clothing, vomit, and many other samples. Additionally, the authors state that cell-free DNA may be present through a combination of circumstances: DNA may be already present outside of the cells and/or DNA is freed from cells during any pre-extraction process (due to the osmotic movement of water into the cells, the cells burst open).

## Survey of Other DNA Analysts

I was curious to see how other analysts would process samples that tested negative in a presumptive test for saliva, so I created a survey using Survey Monkey. The survey included the three case narratives for cases #1, #2, and #3, the biological screening results, and a series of questions. In the survey, the term Sexual Assault Response Team (SART) nurse was used to refer to the RTC nurses. The Survey Monkey web link was posted on the Association of Forensic Quality Assurance Managers (AFQAM) forum and on Friends DNA, a social networking site. The survey was anonymous and generated responses from a total of seventy-two to eighty-five participants. The range of participants was due to some participants not completing the survey.

### Case #1

After participants were provided with the case narrative and biological screening results, they were asked the following question: "Given the previous case scenario and screening results, how would you proceed regarding the bite marks swabs?" A total of 85 responses were received.

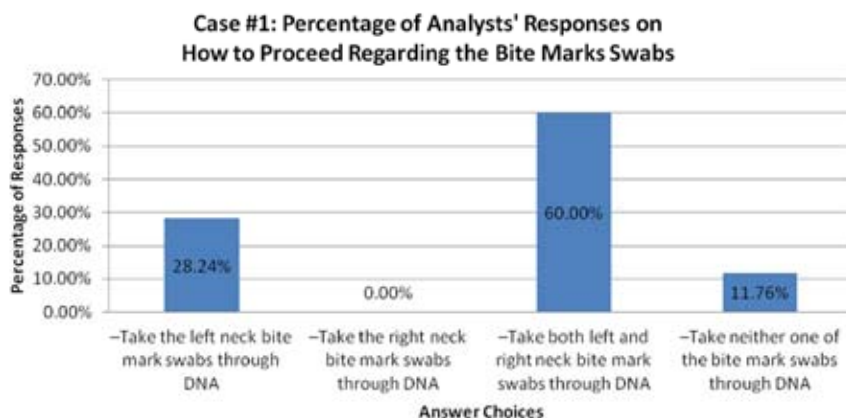


Figure 1. Case #1 Percentage of Analysts' Responses on How to Proceed Regarding the Bite Marks Swabs.

A followup question was then asked of the participants: "For individuals who said that they would start by taking only the left neck bite mark through DNA, if the victim's boyfriend's DNA was detected on the left neck bite mark, how would you then proceed?" This question was asked in an attempt to clarify whether analysts would stop testing or take the right neck bite mark swabs (that tested negative in a presumptive test for saliva) through the DNA process, since many analysts work in tiers or waves. The responses can be seen below:

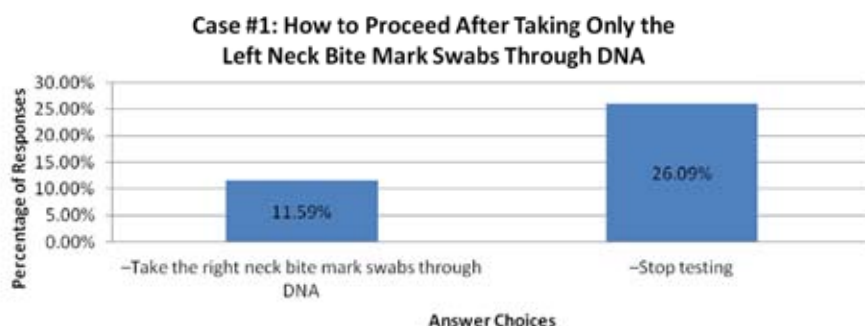


Figure 2. Case #1. How to Proceed After Taking Only the Left Neck Bite Mark Swabs Through DNA.

Next, participants were asked to rank on a scale of 1 to 5 (1 being insignificant and 5 being vital) how the following influenced their decision to proceed: the victim's account of the incident, the SART nurse's observations/collection, the presumptive saliva test results, the microscopic analysis results, and the laboratory protocols.

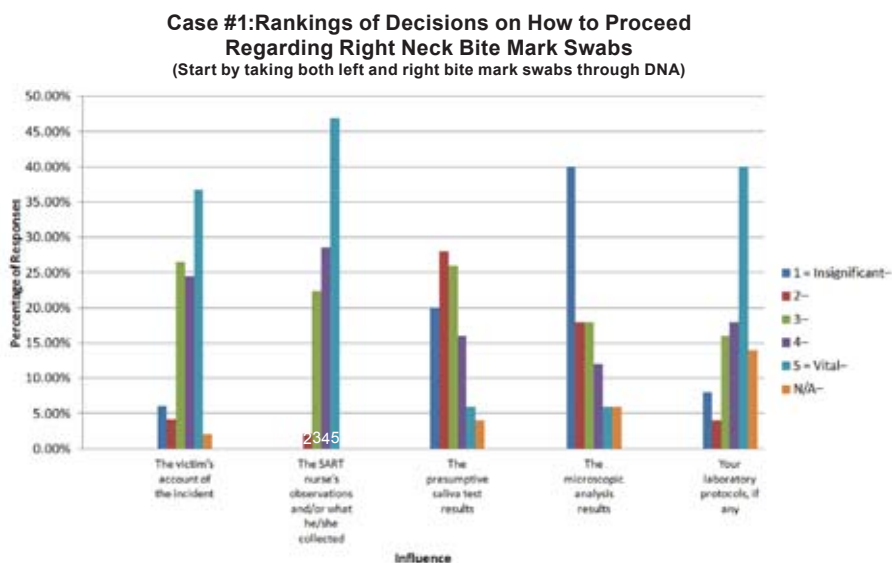


Figure 3. Case #1. Rankings of Decision on How to Proceed Regarding the Right Neck Bite Mark Swabs - Start by taking both left and right bite marks swabs through DNA. The lab protocols, the SART nurse's observations/collection and the victim's account played a vital role in how analysts proceeded.



**Case #1: Rankings of How to Proceed Regarding Right Neck Bite Mark Swabs**  
(Start by taking only the left bite mark through DNA)

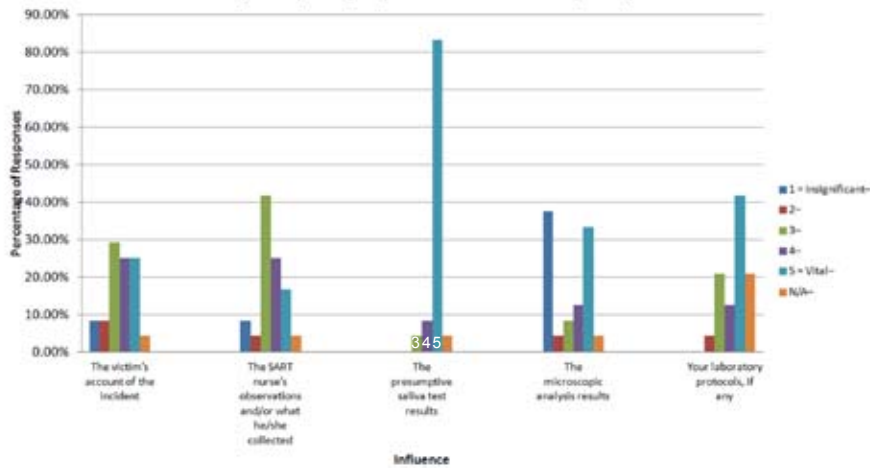


Figure 4. Case #1. Rankings of How to Proceed Regarding Right Neck Bite Mark Swabs - Start by taking only the left bite mark swabs through DNA. The presumptive saliva test results were a vital influence for the majority of the individuals who decided not to perform DNA analysis on the right neck bite mark swabs.

**Case #1: Rankings of Decisions on How to Proceed Regarding Right Neck Bite Mark Swabs**  
(Start by taking neither the left nor the right bite mark through DNA)

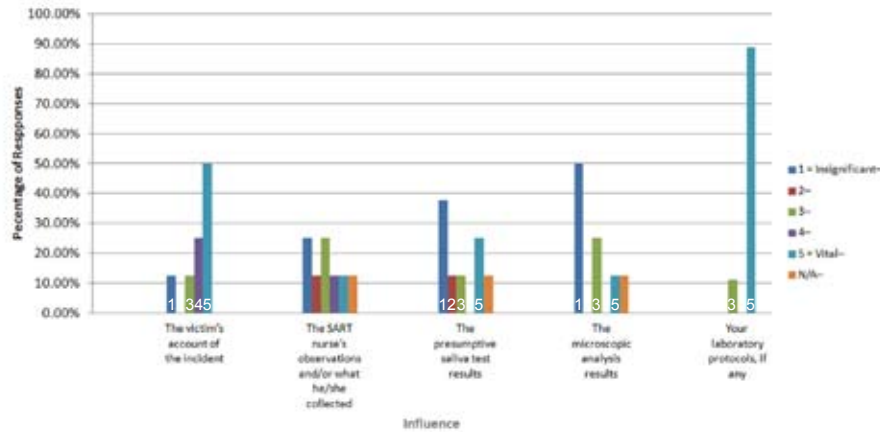


Figure 5. Case #1. Rankings of Decision on How to Proceed Regarding Right Neck Bite Mark Swabs - Start by taking neither the left nor the right bite mark swabs through DNA. The laboratory protocols were a vital influence for the individuals who decided not to perform DNA testing on the right and left neck bite marks swabs.

## Case #2

After participants were provided with the case narrative and biological screening results, they were asked the following question: "Given the previous case scenario and screening results, if the same unknown male was detected on both the vaginal and cervical swabs, how would you proceed regarding the neck swabs?" A total of 75 responses were received.

**Case #2: Percentage of Analysts' Responses on How to Proceed Regarding the Neck Swabs**

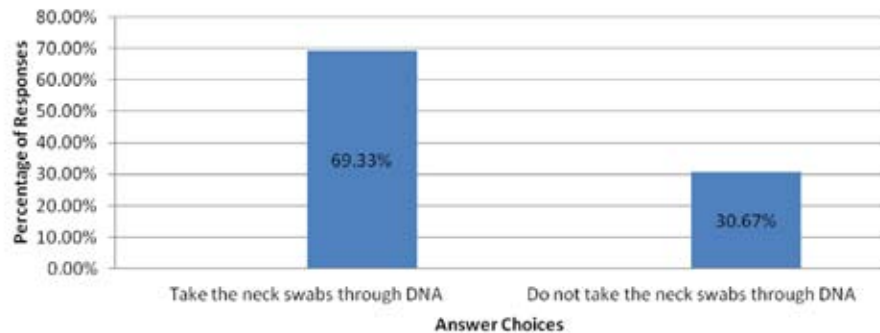


Figure 6. Case #2. Percentage of Analyst's Responses on How to Proceed Regarding the Neck Swabs.

Next, participants were asked to rank on a scale of 1 to 5 (1 being insignificant and 5 being vital) how the following influenced their decision to proceed: the victim's account of the incident, the SART nurse's observations/collection, the presumptive saliva test results, the microscopic analysis results, and the laboratory protocols.

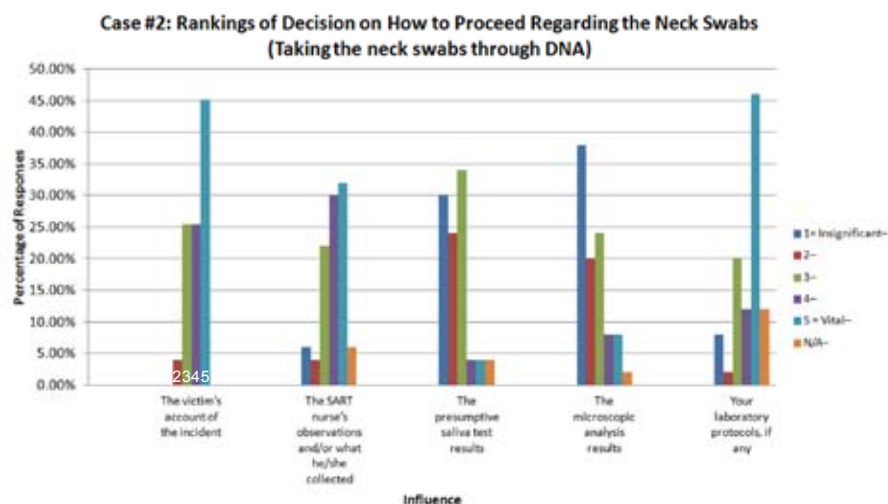


Figure 7. Case #2. Rankings of Decision on How to Proceed Regarding the Neck Swabs - Taking the neck swabs through DNA. The victim's account and the laboratory's protocols vitally impacted how analysts proceeded with the neck swabs.

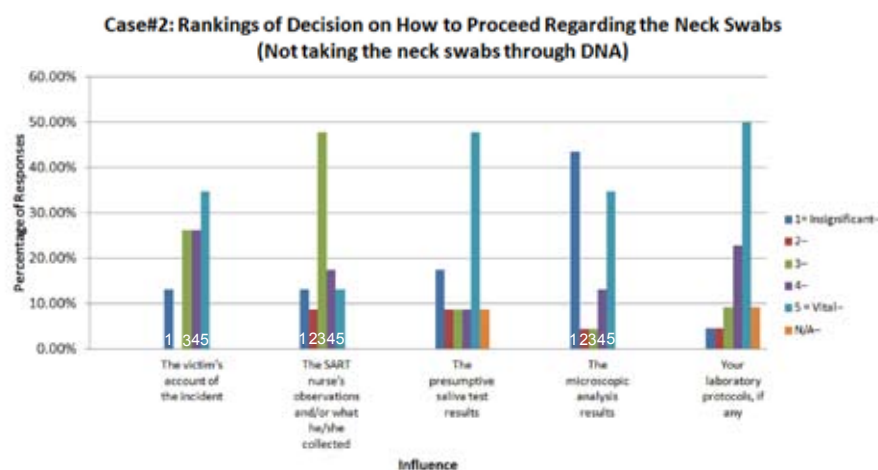


Figure 8. Case #2: Rankings of Decision on How to Proceed Regarding the Neck Swabs - Not taking the neck swabs through DNA. The laboratory protocols and the presumptive saliva test results vitally influenced analysts not taking the neck swabs through the DNA process.

### Case #3

After participants were provided with the case narrative and biological screening results, they were asked the following question: "Given the previous case scenario and screening results, how would you proceed regarding the neck and abdomen swabs?" A total of 72 responses were received.

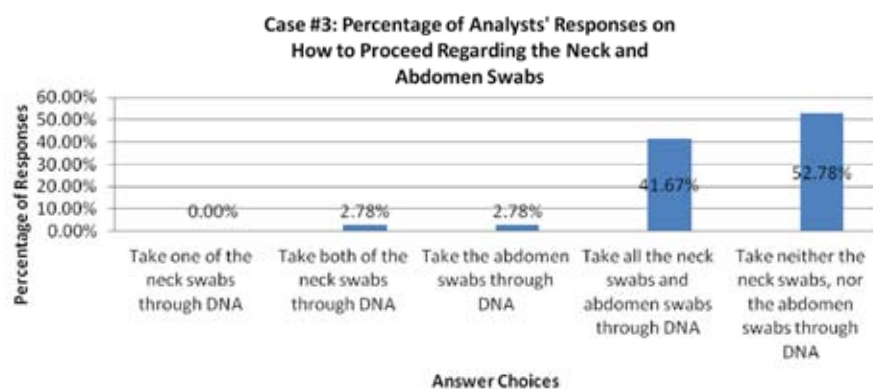


Figure 9. Case #3: Percentage of Analyst's Responses on How to Proceed Regarding the Neck and Abdomen Swabs.

Next, participants were asked to rank on a scale of 1 to 5 (1 being insignificant and 5 being vital) how the following influenced their decision to proceed: the victim's account of the incident, the SART nurse's observations/collection, the presumptive saliva test results, the microscopic analysis results, and the laboratory protocols.

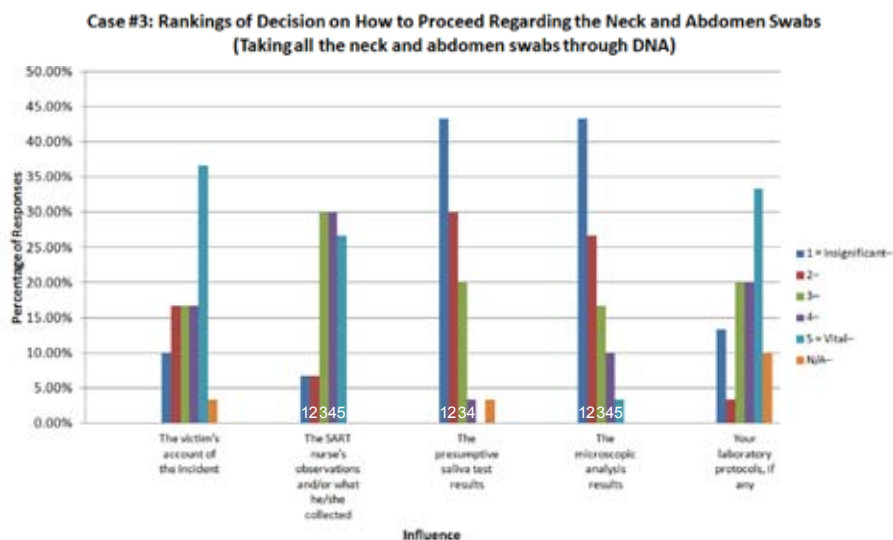


Figure 10. Case #3. Rankings of Decision on How to Proceed Regarding the Neck and Abdomen Swabs - Taking all the neck and abdomen swabs through DNA. The victim's account of the incident and the laboratory protocols were vital influences of how analysts proceeded.

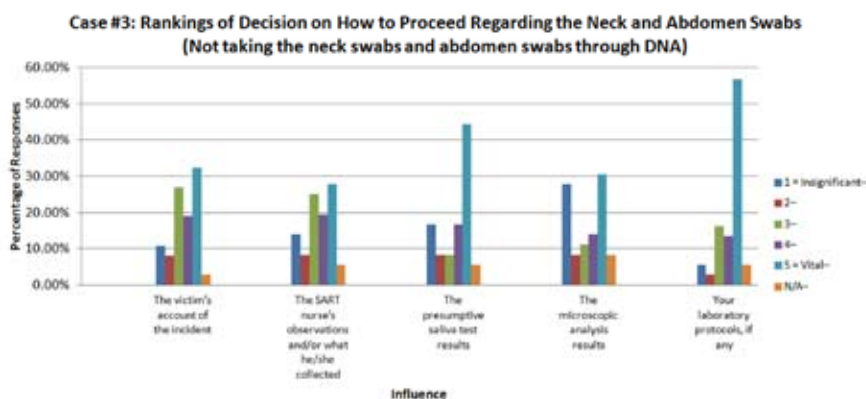


Figure 11. Case #3. Rankings of Decision on How to Proceed Regarding the Neck and Abdomen Swabs Through DNA - Not taking the neck swabs and abdomen swabs through DNA. The presumptive saliva test results and the laboratory protocols vitally influenced how analysts proceeded.

## Survey Response Trends and Concluding Thoughts

After obtaining this data, I examined it to see if there was a consistency in how analysts processed samples. I observed that the same ten people who would *not* take the bite marks swabs through the DNA analysis process in case #1, would also *not* have taken the abdomen and neck swabs through the DNA analysis process in case #3. For these analysts, laboratory protocols and the victim's account vitally influenced not proceeding with the DNA analysis process, even though in case #1 there were visible bite marks. The common theme between case #1 and case #3 was that the victim showered after the assault. Five analysts commented that their lab has a policy of not proceeding with body swabs if the victim has showered after the assault.

Of the fifty-two people in case #2 who would have taken the neck swabs through the DNA process (victim remembered being licked), forty would have also taken the left and right bite mark swabs through the DNA analysis process in case #1. This shows consistency in forty analysts from case #1, since the common theme between cases #1 and #2 was that there was information provided to the SART nurse regarding collection, whether it was the victim's account of the incident or visible



marks. Laboratory protocols, the victim's account, and the SART nurse's observations/collection were important to the above analysts in cases #1 and #2 who would take the swabs through the DNA analysis process.

Of the thirty-eight people who said that they would *not* take the neck and abdomen swabs through the DNA analysis process in case #3, nineteen *would* take the neck swabs of case #2 through the DNA analysis process. These nineteen analysts' vital influence for taking the neck swabs of case #2 through the DNA analysis process were the laboratory protocols, the victim's account, and the SART nurse's observation/collection. The other nineteen analysts in case #3 would *not* take the neck swabs of case #2 through the DNA analysis process, but there was no overwhelming influence as to why they would not proceed with the neck swabs.

Out of the thirty people in case #3 who said that they would take the abdomen and neck swabs through the DNA analysis process, twenty-seven would have taken both the right and left neck bite marks swabs through the DNA analysis process in case #1 and twenty-eight people would have taken the neck swabs through the DNA analysis process in case #2. This shows consistency in how analysts are processing samples and that the vital influences were the victim's account, the SART nurse's observation/collection, and the laboratory protocols.

While analysts' consistency was observed in *how* samples from similar situations were treated, there may be a multitude of other factors *why* analysts treated samples in a particular way. For example, casework experience may influence why samples were processed. In an attempt to try to understand analysts' thought processes in this study, analysts were asked to rank their influences: the victim's account, the SART nurse's observation/collection, the presumptive saliva test results, the microscopic analysis results, and the laboratory protocols. These are only a few of the many possible situations that may influence an analyst, and may account for why, in some instances, there was no overwhelming influence regarding sample processing.

Presumptive saliva tests are by no means irrelevant since they can provide more investigative information, not only giving an indication that the body fluid could be present, but also potentially corroborating a victim's account of the incident. While the results of a presumptive saliva test can be used to process samples in tiers or waves, a sample that produces negative results in a presumptive saliva test (RSID™-Saliva) should not automatically be discounted from future DNA testing. A negative presumptive saliva test does not always mean there will be an absence of DNA.

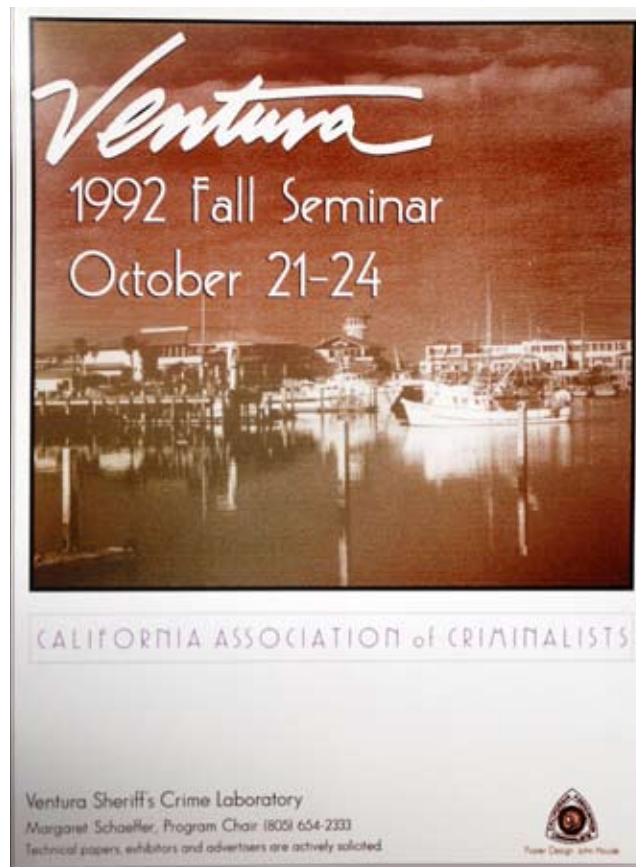
With the increased use of quantification kits used as screening tools (for example, Quantifiler® Duo Quantification Kit from Life Technologies) and increased sensitivity of PCR amplification kits (for example, Identifiler Plus® from Life Technologies), there is an increased possibility that DNA can be detected and results obtained from samples that test negative using a presumptive test for saliva. After reading about my casework experience and survey results, I hope that analysts will have an open discussion about their laboratory's protocols. Some of these protocols may need to be updated, or analysts may need their understanding of their laboratory's protocols clarified. I hope that analysts will consider performing DNA analysis on body swab samples that test *negative* using a presumptive saliva test, since this casework study demonstrates that potentially probative DNA results can be obtained.

## Acknowledgements

Thank you to my colleagues at the San Francisco Police Department Criminalistics Laboratory, all the anonymous survey participants, the Association of Forensic Quality Assurance Managers and the California Association of Criminalists.

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## Historical Seminar Art

Twenty-three years ago, this was the poster for the CAC seminar in Ventura. A 4x5 black and white negative was produced on a computer and the crime lab's photo department enlarged it manually onto 16x20 color paper, adding the sepia tone.

**CALIFORNIA ASSOCIATION OF CRIMINALISTS  
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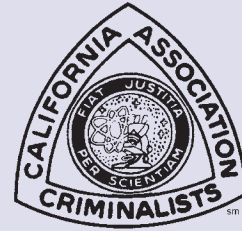


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SPRING 2015 SEMINAR

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