

THE FORENSIC REVIEW: A FUTURE FOCUS EDITION

June 2022
Volume 1 Issue I



A Message from the Lab Director

Greetings!

We hope that 2022 is treating you well! It is hard to believe we are almost halfway through the year! You may notice that our newsletter looks a bit different! We have a new editor in Blake Kinder and decided to provide you the same great content with a more updated look! We hope you enjoy! The laboratory has been quite busy working toward our 2022 goals and objectives and has made great progress in several areas including the onboarding of our Digital Forensics, Crime Scene Response Teams and the Breath Alcohol Units, optimizing workflows for the efficient testing of sexual assault kits as a result of mandatory submission of the kits, and the recent implementation of semi-quantitative marijuana testing in our Seized Drugs Unit. We are excited to see what opportunities the remainder of the year brings! As always, should you have any questions or concerns, don't hesitate to reach out!

Sincerely,

Sheri Lemons

Lab.director@wvsp.gov



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Special points of interest

- Read about the new sections trying to obtain accreditation under the WVSP Forensic Laboratory, the services that they offer, and more!
- Learn about the recent legislation that has affected how sex crime kits are submitted to the lab, the burden faced by the DNA Processing Section, and how it has been overcome.
- Understand the difference between Marijuana and Hemp, and learn about the NEW semi-quantitative testing that the WVSP Seized Drug Section now performs on suspected Cannabis.

A Message from the Editors

New Name, New Look

If you have read our newsletter in the past, you may be wondering, what's the deal? This isn't what I remember. You are right. This is not what you remember. We called our previous effort The Lab Report, and it had a different look and make-up. We published seven volumes under that name from 2015 through 2021 and considered it a successful vehicle for distributing useful information to the communities we serve. Our Editor-in-Chief moved on last year and with a new editor came the idea that we would conduct a reboot, which is what you are reading now.

Though different in name and appearance, The Forensic Review will still provide its readership information that hopefully will educate you on the mission of the laboratory, on what we offer in forensic disciplines, on how to submit evidence to maximize its value, and on new legislation impacting our communities. And we will introduce you to the scientists, technicians, and staff members that come together to provide the services you expect, including the new additions to the laboratory that are the focus of this inaugural edition.

We would love to hear from you.

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Employee Spotlight



Kirby Milam

Hometown: Fayetteville, WV

Education: Bachelor of Science in Biology from Concord University

Work Experience: I have been employed by the West Virginia State Police since 2015.

Role at the WVSP Forensic Laboratory: I am currently a Forensic Scientist 4 in the Breath Alcohol Section. My primary job duties relate to maintaining and calibrating the secondary chemical breath test instruments throughout the state of West Virginia. I hold a certification from the manufacturer of the instruments, Intoximeters, Inc., which allows me to perform troubleshooting and maintenance tasks for these evidentiary instruments. I am also the Technical Leader of the Breath Alcohol Section, which means I am responsible for handling the technical and quality duties of the section.

Favorite part of your job: I have enjoyed getting to travel around our beautiful state. I also enjoy the interactions I have with law enforcement agencies throughout the state and being able to assist them with their needs.



Caige McCabe

Hometown: Canton, OH

Education: Bachelor of Science in Biotechnology from Concord University
Master of Science in Forensic Science from Marshall University

Work Experience: I have been employed by the West Virginia State Police since 2020.

Role at the WVSP Forensic Laboratory: I am currently a Forensic Scientist 1 in the Digital Forensics Unit. My job duties include extracting and analyzing electronic media for evidence of a crime for the state of West Virginia. I hold certifications from Cellebrite Inc. and Magnet Forensics Inc., which allow me to perform extractions and examinations on a variety of electronic devices including cellular devices, tablets, removable media, and hard drives.

Favorite part of your job: I enjoy that this job allows me to be able to perform different types of investigations. No two cases in digital forensics are the same, and I appreciate the diverse and fresh opportunities this job provides.



Breath Alcohol Unit

Written by: Stacy Baker

The Breath Alcohol Section of the West Virginia State Police Forensic Laboratory (WVSPFL) is responsible for the maintenance and calibration of preliminary and secondary

chemical (evidential) breath alcohol testing instruments for the state of West Virginia. Presently, the Commission on Drunk Driving Prevention (CDDP) provides the WVSPFL with breath testing instruments for use by all law enforcement officers throughout the state.

The Breath Alcohol Section was acquired by the laboratory in February 2020 and is comprised of a two-person staff. Since becoming a part of the laboratory, the section has worked diligently to develop procedures and manuals that adhere to the ISO 17025 standards. The section is looking forward to seeking accreditation this fall.

A preliminary breath test instrument, or PBT, is a handheld breath alcohol screening instrument that can determine the presence or absence of alcohol. If the PBT indicates the presence of alcohol, a secondary chemical test of breath or blood can be performed to determine the level of alcohol present. It is recommended that PBTs be adjusted and accuracy checked at a minimum of every 6 months to ensure their accuracy.

The Breath Alcohol Section and the CDDP Regional Coordinators can perform these tasks, if requested. It is the responsibility of the officer to ensure their instrument is in proper working order. The Breath Alcohol Section may be able to provide a PBT if an agency requests one in writing. Currently, the only PBT the section maintains is the Alco-Sensor FST.



Alco-Sensor FST

Breath Alcohol Unit, Continued

There are 110 agencies that house a secondary breath testing instrument. The section calibrates and performs preventative maintenance on the instruments annually. The West Virginia Bureau for Public Health (BPH) currently approves one secondary chemical breath testing instrument for the State of West Virginia: Intox EC/IR II, manufactured by Intoximeters, Inc. As such, the Intox EC/IR II is the only evidential breath testing instrument that will be calibrated, maintained, and repaired by the WVSPFL Breath Alcohol Section. The instrument should be housed in a clean, smoke-free environment. Special care should be taken to avoid the use of any aerosols, hand sanitizers, or cleaning supplies that contain alcohol, in the vicinity of the instrument. If an issue should arise with the instrument, contact the area WVSP district sergeant or the Breath Alcohol Section.

Both the preliminary breath test device and the secondary chemical breath alcohol testing instruments distributed by the WVSPFL, meet the National Highway Traffic Safety Administration (NHTSA) performance criteria set forth in their model specifications for breath test devices, and are on the Conforming Products List (CPL). They also meet the requirements set forth in Chapter 17C of the West Virginia Code and Title 64 Legislative Rule Bureau for Public Health, Series 10, Methods and Standards for Chemical Tests for Intoxication (64CSR10).

In order to operate both the preliminary and secondary chemical breath alcohol testing instruments for the state of West Virginia, the operator must become certified. Certification can be obtained through the WVSP Academy. Certification records are maintained by BPH.

If you have any questions, please contact either **Stacy Baker (304) 746-2183** or **Kirby Milam (304) 746-2269** at the WVSPFL or send an email to breathalcohol@wvsp.gov.

Digital Forensics Unit

Written by: Dawn Smith



The West Virginia State Police Digital Forensics Unit (DFU) was created in 2005 as part of the state’s Internet Crimes Against Children (ICAC) taskforce. The first location was established in Morgantown in a partnership with West Virginia University and National White Collar Crime Center (NW3C) under the West Virginia Cyber Crime Cooperative (WV3C).

As the need for ICAC support grew, a second location was added at Marshall University in Huntington to serve the southern part of the state. The southern unit was funded through a partnership with the Marshall University Forensic Science Center (MUFSC) and a grant administered by the National Institute of Justice (NIJ).

With the rise of the importance of technology in the forensic field, the digital unit has grown to house seven full time analysts. The DFU works closely with several agencies in the fight against crime, specifically cases dealing with child exploitation, sexual abuse material, and human trafficking.

Aside from West Virginia law enforcement, the DFU also supports ICAC, National Center for Missing & Exploited Children (NCMEC), NW3C, Homeland Security Investigations (HIS), FBI, DEA, ATF, ICE, Operation Underground Railroad, United States Secret Service, and Kentucky and Ohio local law enforcement agencies.

The unit has participated in community outreach and education, conducts cyber-crime and digital evidence training for law enforcement, been highlighted in international documentaries, and has been recognized by the United States Department of Justice.

In May 2020, the DFU was moved under the West Virginia State Police Forensic Laboratory. Our goals under the laboratory include expanding the scope of our investigations to include video and multimedia forensics, vehicle forensics, proactive ICAC investigations, to achieve accreditation, and to continue to foster relationships with other state entities.

Crime Scene Response Team Profile

Dave Castle is a new addition to the West Virginia State Police (WVSP). He was hired in August 2020 as part of a new push to restructure the West Virginia State Police Crime Scene Response Team (CSRT) program. The vision of West Virginia State Police Forensic Laboratory director, Sheri Lemons, is to absorb the CSRT program under the laboratory umbrella as an accredited unit. Dave is one of three individuals who has been hired as crime scene specialists to achieve this goal; others include Regina Reynolds and Lt. Mike Kief (ret. WVSP).



Dave's background is in law enforcement and forensic investigations. He retired from the Huntington Police Department with the rank of lieutenant in May 2020 after a 31-year career. He started as a civilian employee of HPD in 1989, while a junior at Marshall University, and began training in the disciplines of latent print identification and crime scene investigation. He graduated from MU with a bachelor's degree in criminal justice in 1991 and gave his first expert witness testimony as a fingerprint examiner in 1992. In 1994, Dave was hired as a police officer and worked midnight shift patrol for the next five years until he was transferred back into the Forensic Investigations Unit as the supervisor. Over the course of his career, he achieved certifications from the I.A.I. as a latent print examiner and senior crime scene analyst and has testified as an expert witness in the areas of crime scene investigation, latent print identification, blood pattern analysis, shooting reconstruction, and crime scene reconstruction. Since 2010, Dave has also been adjunct faculty for the Marshall University Forensic Science master's program where he instructs Blood Pattern Analysis and Advanced Crime Scene and Death Investigation.

In addition to working toward accreditation, Dave has developed and implemented a crime scene investigation curriculum at the Professional Development Center where he teaches six 40-hour courses to new and veteran crime scene team members as well as outside law enforcement agencies. Dave also teaches academy courses in crime scene investigation and latent print development. Although teaching is his primary responsibility, he also responds to major crime scenes across the State of West Virginia upon request.



The Implementation of Mandatory Testing of Sexual Assault Evidence Collection Kits (SAECKs) in West Virginia: A Look at What Led to It, Lessons Learned, and Where We Need to Improve

Written by David Miller

Currently, every SAECK in West Virginia is tracked from the time it is mailed to a hospital/facility, through collection at the hospital/facility, through submission to the West Virginia State Police Forensic Laboratory (WVSPFL), and then back to the investigating law enforcement agency. Also, every SAECK has a unique tracking number which is recorded in the SAECK Information System software, which is a custom software application developed specifically to track and monitor SAECKs in our State. Data from the SAECK Information System can be used to give a multidisciplinary picture of how we're handling sexual assault cases.

In Figure 1 below, which was generated using data from the SAECK information system, you'll see that for the ten-year period from 2012 to 2021, an average of about 600 SAECKs per year were distributed to hospitals/facilities for use on victims of sexual assault. In that same period, only about 33% of those distributed SAECKs ever made it to the WVSPFL for DNA testing, until the year 2020, where we see a sharp increase in the number of submissions. What happened in 2020, and what happened to the remaining 66% of distributed SAECKs from 2012 to 2019?

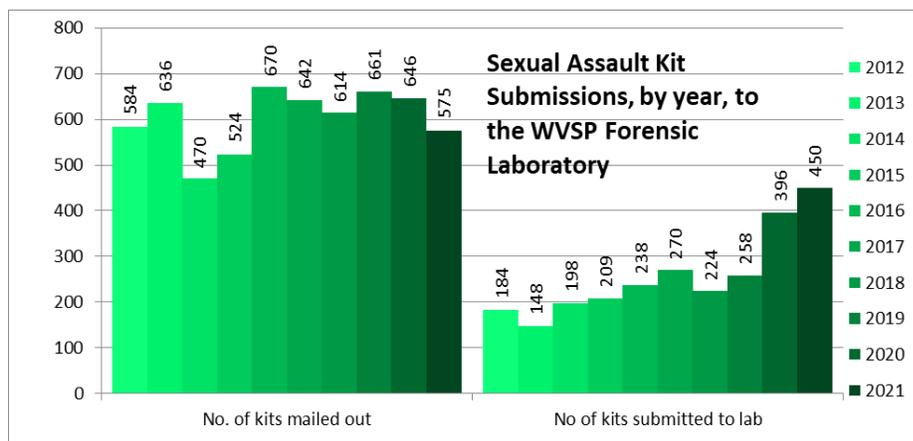


Figure 1—Sexual Assault Kit Submissions

Mandatory Testing of Sexual Assault Evidence Collection Kits (SAECKs) in West Virginia, continued

By using the SAECK Information System, we know that about 50 SAECKs per year are sent to the Marshall University Forensic Science Center (MUFSC) for storage because the victim chose not to report the incident to law enforcement. Another 50 SAECKs per year are used for training, and yet another 50 per year are lost or destroyed for various reasons (i.e. opened to use and then refused by the patient). We are then left with the unfortunate truth that from 2012 to 2019 up to 250 SAECKs per year were collected from victims of sexual assault, and not submitted for testing.

Before we get to 2020, let's go over a little more history of the events leading to a mandatory submission of SAECKs. In 2016, West Virginia was awarded two million dollars from the District Attorney of New York (DANY) Grant to DNA test all previously unsubmitted and untested SAECKs going all the way back to the early 1990s. One requirement for obtaining these funds was to develop a plan to prevent any future sexual assault kits from being untested. This message was delivered to all WVSP members in a directive stating that all kits must come to the lab. Laboratory personnel began teaching at in-service, basic, and cadet classes that all kits should be submitted to the lab. In 2016 and 2017, there was a short-lived increase in the number of SAECKs being submitted.



Figure 2—Picture of a SAECK

Mandatory Testing of Sexual Assault Evidence Collection Kits (SAECKs) in West Virginia, continued

In 2019, Governor Justice signed Senate Bill 72 into law which states that victims of sexual assault have the following rights¹:

- (1) The right to a personal representative of the victim's choice to accompany him or her to a hospital or other health care facility and to attend proceedings concerning the alleged assault, including police interviews and court proceedings: Provided, That nothing in this subsection shall be construed to violate established forensic interview protocols;
- (2) The right to receive a forensic medical examination consistent with the provisions of §61-8B-1(12) of this code conducted by a qualified medical provider in accordance with best practices, taking into consideration the age of the victim and circumstances of the offense;
- (3) The right to have a sexual assault evidence collection kit tested and preserved by the investigating law-enforcement agency;
- (4) The right to be informed by the investigating law-enforcement agency of any results of the forensic medical examination, if such disclosure would not impede or compromise an ongoing investigation;
- (5) The right to be informed in writing of the policies governing the forensic medical examination and preservation of evidence obtained from the examination;
- (6) The right to receive, upon his or her written request, notification by United States mail, restricted delivery, to his or her last known address, from the custodian of the evidence obtained from the forensic medical examination no fewer than 60 days prior to the date of the intended destruction or disposal of the evidence: Provided, That notice to a victim which meets the requirements of this subdivision, whether received by the addressee or not, meets all notice requirements imposed by this section;
- (7) The right, upon his or her written request, to have the evidence obtained from the forensic medical examination preserved for an additional period not to exceed 10 years; and
- (8) The right to be informed of the rights afforded a victim pursuant to this section.

1) W.V. Legis. Assemb. 2019, S. 72, Victim Protection Act of 2019, Sexual Assault Victims' Bill of Rights

Senate Bill 72

Mandatory Testing of Sexual Assault Evidence Collection Kits (SAECKs) in West Virginia, continued

Senate Bill 72 did not specifically mandate the submission of SAECKs and it did not result in an increase in SAECK submission in 2019. But it was the first step towards a legislatively mandated submission of all SAECKs, which would come in 2020 with H.B. 4476.

In 2020, House Bill 4476 did, however, finally mandate² that as of May 18th, 2020, “Upon collection, a sexual assault forensic examination kit shall be submitted for testing by the health care provider to the West Virginia State Police Forensic Laboratory within 30 days of collection or as soon thereafter as practicable.” H.B. 4476 has since been referred to as the “Direct Submission” or “Direct Deposit” of kits.

All identified, untested SAECKs collected and reported to law enforcement prior to 2016 were tested under the DANY Grant. All SAECKs collected and reported to law enforcement after May of 2020, are required to be sent to the WVSPFL for DNA testing. All law enforcement agencies in West Virginia were asked by the Governor’s Sexual Assault Forensic Examination Commission (SAFE Commission) to certify that they either have no untested kits collected between 2016 and 2020, or if so, must submit those “Gap” SAECKs for testing.

Immediate compliance with H.B. 4476 can be seen in Figure 1. Even though it was only effective for part of 2020, total SAECK submissions for 2020 went up 180% over the prior eight-year average and were up 200% in 2021 with the first full year of compliance. With COVID-19 restrictions in place at that time, it is remarkable that most of our hospitals were able to make this change of protocol so quickly.

Recall that prior to May of 2020, a law enforcement officer was required to go to the hospital, pick up the SAECK, and then deliver and submit the SAECK to the WVSPFL for testing. Under H.B. 4476, the collection facility uses a prepaid Federal Express shipping label to send the kit directly to the Forensic Laboratory in South Charleston. The investigating officer is still required to obtain the SAECK documentation forms from the hospital and is still required to complete and submit the corresponding laboratory submission forms (WVSP Forms 53 and 53A) to the WVSPFL.

2) W.V. Legis. Assemb. 2020, H.B.4476, §15-9B-4. Submission, testing, and retention of sexual assault forensic examination kits.

Mandatory Testing of Sexual Assault Evidence Collection Kits (SAECKs) in West Virginia, continued



For two years now, it has been the responsibility of the hospital/collection facility to send reported SAECKs directly to the WVSPFL. The WVSPFL has improved protocols and workflows and implemented more restrictive case acceptance policies to handle the additional workload. More SAECKs are being tested with quicker turnaround times, and victims' rights to have the SAECK tested are being met. More

testing also leads to more CODIS eligible DNA profiles being entered into the FBI's State and National Indexes, which will result in more investigative leads. For these reasons, we consider the program a success.

Over the last two years, however, we've been able to identify some systemic problems and unintended consequences of the "direct submission" law, along with some potential solutions. We'll go over these individually now, with commentary on what needs to be done to improve the process.

1. When a victim of sexual assault presents at a hospital and has a SAECK taken, what law enforcement agency/officer is responsible for that investigation?

The answer to that question may be known by law enforcement officers, but it's not always known by the Sexual Assault Nurse Examiner responsible for filling out the form. Some hospitals have close relationships and well understood processes with local law enforcement officers and can correctly document what law enforcement agency or officer is handling the case. Victims may travel many counties to find a hospital willing to collect the SAECK. The victim may be unsure of where the assault occurred. Some small municipal police departments may defer sexual assault investigations to the county sheriff, and some hospital staff may not know how to document the proper law enforcement agency.

Mandatory Testing of Sexual Assault Evidence Collection Kits (SAECKs) in West Virginia, continued

Part B of the hospital documentation records the law enforcement agency responsible for the SAECK:

B. REPORT TO LAW ENFORCEMENT

City/County of assault:	Date of assault: Time of assault:	Person Reporting to Law Enforcement	Date/Time of report
Name of Responding Officer		Law Enforcement Agency	Officer's phone

If the above portion of the hospital documentation is left blank, WVSPFL results will be reported to the WVSP detachment commander closest to the hospital/facility where the kit was collected. If only a law enforcement agency is listed with no investigating officer provided, WVSPFL results will be reported to the commanding officer of the listed agency.

2. The responsible law enforcement agency does not fill out and provide Case Submission Forms (WVSP Forms 53 and 53A) to the WVSPFL.

Each SAECK contains triplicate copies of the hospital documentation forms: one for the hospital/facility, one for the WVSPFL, and one for the investigating officer. It is the responsibility of the investigating officer to arrive at the hospital/facility to take possession of his or her copy of the hospital documentation forms, and to complete and submit WVSP Forms 53 and 53A (Figure 3).

Submission forms are a legal contract between the laboratory and the investigating agency. They contain specific information needed by the laboratory to have questions answered, perform data entry, sample selection, request information, and to determine CODIS eligibility.

When a SAECK is received at the WVSPFL with a completed Part B, but no submission forms are received, the laboratory report will be sent to the commanding officer of the person listed on Part B.

WVSP Form 53A
08/2007

FORENSIC LABORATORY
DNA CASE SUPPLEMENTAL FORM

Request Number: _____
Lab Case Number: _____
(SEE USE ONLY)

THE FOLLOWING ARE GUIDELINES FOR ITEM LIMIT PER TYPE OF CASE

Sexual Assault: No kit-8 items	Homicide: 1 victim and 1 suspect-5 items More than 1 victim or suspect-8 items	Burglary/Property Crime: 2 items	Assault/Robbery/Felon in Possession/Crimes Against Persons: 3 items
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Investigating Agency: _____ Investigator: _____
Agency Case #: _____ Email: _____

List submitted item number from WVSP Form 53. Answer the questions in regards to each item submitted.

Where was item found? Can use more than one.	Can use more than one.	How is this item directly related to the crime being charged? Can use more than one.	What question are you trying to answer with DNA?
1. victim name	1. Weapon Used	1. Whose blood is on the item?	1. Whose blood is on the item?
2. victim Clothing	2. Clothing worn by suspect	2. Whose semen is on the item?	2. Whose semen is on the item?
3. Point of entry	3. Clothing worn by victim	3. Whose saliva is on the item?	3. Whose saliva is on the item?
4. On Victim	4. Item left behind by perpetrator during commission of crime	4. Who handled the item?	4. Who handled the item?
5. Crime Scene	5. Biological fluid left by perpetrator during commission of crime	5. Who was wearing the item?	5. Who was wearing the item?
6. Other (explain)	6. Item known to be handled by suspect	6. Other (explain)	6. Other (explain)
7. Suspect home	7. Biological fluid possibly from victim		
8. On Suspect	8. Other (explain)		
9. Suspect Clothing			
10. Other (explain)			

Known #1: _____ Victim Suspect Elimination Consensual Partner
Known #2: _____ Victim Suspect Elimination Consensual Partner
Known #3: _____ Victim Suspect Elimination Consensual Partner

Additional Questions for Property Crimes

1. If cigarette submitted: Does victim smoke? Yes Brand Smoked: _____ No N/A Brand Submitted: _____

2. If suspected biological fluid: Could biological fluid be from homeowner, owner of vehicle or someone other than the perpetrator? Yes No Explain Below

Additional Questions for Homicide/Crimes Against Persons:

1. Who was believed to be bleeding? _____
2. What weapon was believed to be used? _____
3. Has the victim known been submitted? Yes No If deceased, please obtain from the medical examiner's office.

4. Has suspect known been submitted? Yes No (known is still required for comparison even if suspect is in the CODIS database.)
5. Did perpetrator have prior access to the crime scene? Yes No Unsure
6. Did victim and perpetrator have contact prior to the crime? Yes No Unsure

Use for any additional explanations

Additional Questions for Sexual Assault

1. Did ejaculation occur? Yes No Unsure
If yes, where? _____
2. Was a condom used? Yes No Unsure
3. What body cavities were penetrated? Vaginal Anal Oral | Unsure
4. Is there a consensual partner? Yes No
If yes, is the known submitted? Yes No Unable to obtain (Please explain)
5. Number of Assaults? _____
6. Loss of consciousness? Yes No Unsure

Figure 3—WVSP Form 53A

3. Sexual Assault Evidence Collection Kits taken from victims of sexual assault in other states.

H.B. 4476 is specific to sexual assaults that take place in West Virginia with the SAECK collected in West Virginia. Even so, we have good working relationships with some hospitals in bordering states that are cooperating, including UPMC Western Maryland, Winchester Medical, Ohio Valley Medical, and others. They will collect a WV SAECK and send it directly to the WVSPFL for victims of sexual assaults occurring in West Virginia.

On the other hand, when a victim of sexual assault which took place outside of West Virginia comes to West Virginia to have a SAECK taken, it can be very difficult for both the hospital and/or the WVSPFL to identify which out-of-state law enforcement agency has jurisdiction. In these situations, we may need to ask for help from local West Virginia officers.

When a victim from a sexual assault that took place in West Virginia travels out of state to have the SAECK taken from a facility we do not work with, the investigating officer must take possession of the kit and submit it for testing.

4. The need for a pediatric-specific hospital documentation, updates to SAECK instructions, and additional documentation for strangulations.

The WVSPFL has heard and understands the need for additional paperwork to be contained inside of our kits. A pediatric version of the documentation has been requested, and so has strangulation-specific documentation. Each version of the kit and contents is carefully considered prior to putting the specifications out for vendor bids which result in a three-year contract. We also know that three years is too long to wait to make important updates and changes to the kit forms and instructions.

One possible solution to this problem is to remove most of the documentation from the kit, making it available online to print. This would allow for more versions to exist, specific to pediatric victims, strangulations, reports to law enforcement, and non-reports to law enforcement. Updates and changes could be made in real-time, and the production cost per kit would be decreased. There are concerns with an online source of kit documents. First and foremost being the possibility that the forms would not be completed, and kits would be collected without the required documentation. Second, we would have yet another website that must be accessed during an already difficult procedure. Third, facilities might be tempted to print multiple copies for use, thereby missing important updates and changes.

Conclusion

West Virginia has made a great advancement in developing a multidisciplinary response to sexual assault. There are dedicated people from law enforcement, the Foundation for Rape Information and Services, the Hospital Association, the Prosecuting Attorney's Institute, the WVSPFL, victim advocates, Sexual Assault Nurse Examiners, RNs, physicians, and many others working diligently to further streamline and improve our response to sexual assault. As a direct result of H.B. 4476, most SAECKs that are reported to law enforcement are being sent directly to the WVSPFL for testing.

Through education, training, and communication amongst all of us, we hope to eliminate the few remaining challenges with the mandatory submission of all reported sexual assault evidence collection kits in West Virginia. If you have any questions or concerns about your own experiences with this subject, or if you have suggestions for improvement, solutions to problems, or feedback on the process, please contact either **David Miller (304) 746-2412** or **Aaron Dean (304) 746-2438** at the WVSPFL or send an email to biology@wvsp.gov.

Being Blunt About Hemp vs. Marijuana

Written by: Blake Kinder

Weed, pot, Mary Jane, grass, and chronic are just a few slang terms for the common scientific name of *Cannabis*. When it comes to Cannabis, there are two things commonly associated with it, marijuana and hemp. Cannabis contains substances called cannabinoids, and one that is of particular interest is delta-9 tetrahydrocannabinol (THC).

In 2018, Congress passed the 2018 Farm Bill. You might be thinking to yourself, what does a farm bill have to do with forensic science? The 2018 Farm Bill was impactful to the forensic science community because it removed hemp from Schedule I of the Controlled Substances Act, and it is no longer a controlled substance. Hemp is defined under the 2018 Farm Bill “to include any cannabis plant, or derivative thereof, that contains not more than 0.3 percent delta-9 THC on a dry-weight basis.” So, what does all that mean? Federally if a cannabis plant contains more than 0.3 percent delta-9 THC (on a dry-weight basis), it would be classified as marijuana. If it contains less than the 0.3 percent delta-9 THC, it would be classified as hemp.

In the State of West Virginia, the Department of Agriculture has defined marijuana as “all plant material from the genus cannabis containing more than **1 percent tetrahydrocannabinol** or seeds of the genus capable of germination.”

The Seized Drug Section at the West Virginia State Police Forensic Lab traditionally identified marijuana based on a series of preliminary tests (macroscopic, microscopic, and a modified Duquenois-Levine color test), which acts as a confirmatory test if all the preliminary tests are positive. With the 2018 Farm Bill and legislation, more testing was needed to try and differentiate between hemp and marijuana.

A method was developed to perform a semi-quantitative test on suspected marijuana submissions. This semi-quantitative test will not provide an exact delta-9 THC percentage; however, it will determine if the delta-9 THC content is greater than, less than, or equal to a certain threshold that exceeds the 1 percent requirement for the legal definition of marijuana, in the State of WV. If the threshold is met or exceeded, then the sample is confirmed as marijuana. If the threshold is not exceeded, the sample is inconclusive, and a full quantitation at an outside laboratory would be needed to determine the exact delta-9 THC percentage. This service is now available at the West Virginia State Police Forensic Laboratory and will be part of routine testing for suspected marijuana samples. For more information please email us at drugs@wvsp.gov.

FORENSIC LABORATORY

WEST VIRGINIA STATE POLICE

LABORATORY INFO:

West Virginia State Police
Forensic Laboratory
725 Jefferson Road
South Charleston, WV 25309

SECTION CONTACTS:

Biology DNA / Databasing: biology@wvsp.gov

Biology Processing: biology@wvsp.gov

Breath Alcohol: breathalcohol@wvsp.gov

Central Evidence Receiving: cer@wvsp.gov

Seized Drugs: drugs@wvsp.gov

Firearms/Toolmarks: firearms@wvsp.gov

NIBIN: nibin@wvsp.gov

Latent Prints: latent.prints@wvsp.gov

Toxicology: toxicology@wvsp.gov

Trace Evidence: trace@wvsp.gov

Request for sex crime kits and CODIS kits:
laboratory.kits@wvsp.gov

FEEDBACK

We always welcome feedback for the upcoming newsletter!

Have comments or suggestion?

Want to know how we do something?

Need to know how we recommend to collect a specific type of evidence?

Feel free to contact the editors and suggest topics and provide us with any comments or feedback.

Your Editors,
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Laboratory Mission and Goal

Mission:

It is the mission of the West Virginia State Police Forensic Laboratory to provide accurate and impartial forensic services to all criminal justice agencies operating in the State of West Virginia.

Goal:

The goal of the West Virginia State Police Forensic Laboratory is to generate accurate, impartial, and timely scientific examinations and opinions for the criminal justice system of the State in the interest of public safety.