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P&SN

Police
and
Security
News

JULY/AUGUST 2017
VOLUME 33 ISSUE 4

Serving Law Enforcement & Homeland Security

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**MANAGING
USE-OF-FORCE
INCIDENTS:
BEFORE AND
AFTER THEY
HAPPEN**

Brass and Blood:
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FOCUS

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Data Mining in Law Enforcement 35

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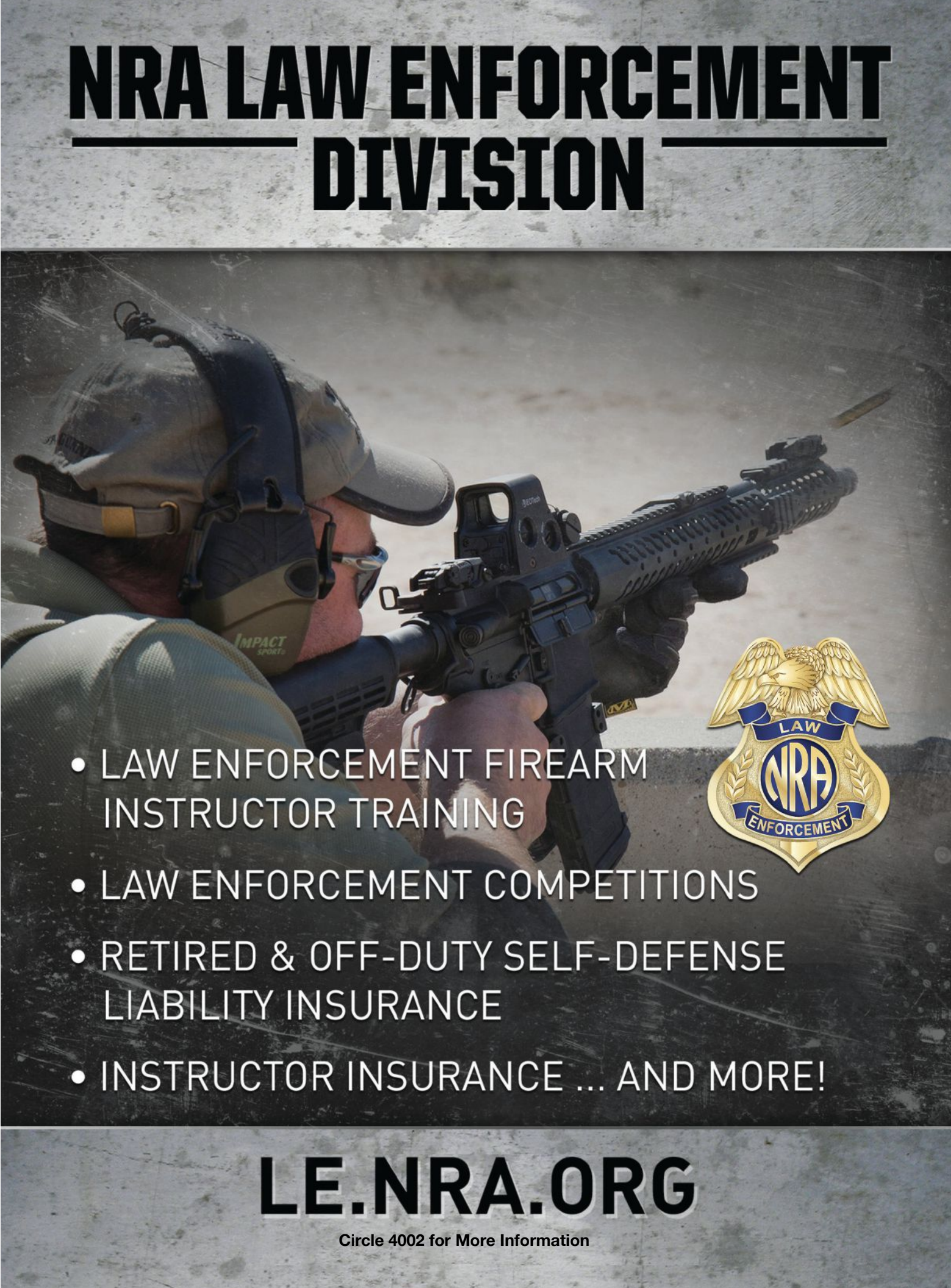
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ON THE COVER

While researchers continue to look for the next generation of ballistic materials, ballistic armor producers and manufacturers strive to create products which weigh less, increase performance and offer greater flexibility.

NRA LAW ENFORCEMENT DIVISION

- 
- A person wearing a tan tactical helmet with a black chin strap and a black communication device, and a tan tactical vest with "IMPACT SPORTS" written on it, is aiming a black AR-15 style rifle. The background is a blurred outdoor setting.
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...AND
NOTHING BUT
THE TRUTH



Underage Girls and Marriage (No, Not in Yemen or Libya...HERE)

Ramesh Nyberg

There are a ton of issues to choose from which I could write about so, before we continue, let me give you this gentle disclaimer: The many law enforcement issues I could (and maybe should) be writing about here are just too much of an emotional tornado for me, so I've chosen another topic. Not to worry, I'll go back to tackling the obvious stuff which makes all of us grind our teeth and hearts these days. In this issue, I give you something less obvious, but almost as emotionally excruciating – the idea of some young girls getting married off to adult males.

I'm not talking about some Romeo and Juliet story of a 17-year-old girl running off with a 20-year-old boyfriend – I'm talking about a 12-year-old girl being legally wed to a 40-year-old man. Ah, you scoff, that's Yemen's or Saudi Arabia's problem, right? Wrong – and hold onto your seat: Between 2000 and 2010, there were approximately 167,000 underage girls married to adult men *in the United States*, and that was data from only 38 states. It's our problem, too. In studies by nonprofit groups such as Unchained at Last (a New Jersey-based organization), these marriages have involved girls as young as 12 being forced into marriages to men, often "gifted" to them in prearranged marriages. The social fallout from this barbaric practice is a divorce rate of nearly 70%, a high school dropout rate of 50%, and countless cases of abuse and sexual slavery. Girls who marry before the age of 18 have a dismal 25% chance of attaining a college degree.

"What I found particularly alarming is how completely asleep at the wheel we have been in this country about these depravities. Here in 2017, 27 of our 50 states have no laws which specify a minimum age for a child to marry."

~Ramesh Nyberg

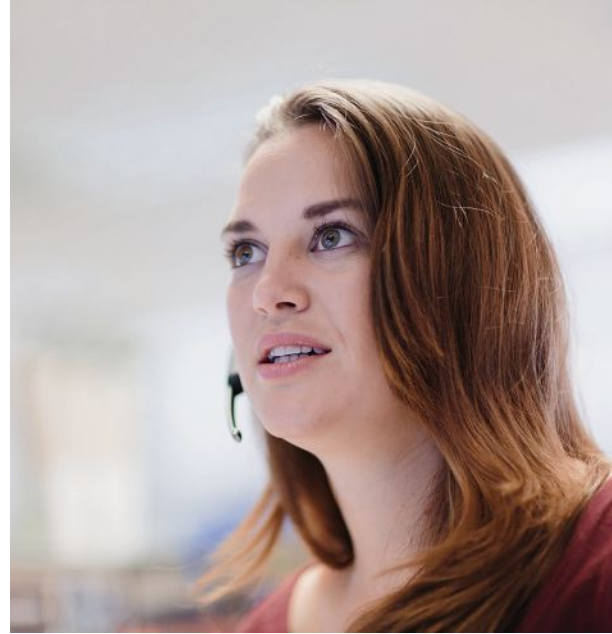
You want to bring up religious tolerance? Go ahead. I hereby proclaim myself as religiously *intolerant* to any cultural or religious practice which mandates a young girl be forced into a marriage with a grown man. It's nothing more than a loophole to pedophilia and rape. It's time to close the loopholes.

What I found particularly alarming is how completely asleep at the wheel we have been in this country about these depravities. Here in 2017, 27 of our 50 states *have no laws* which specify a minimum age for a child to marry. Even in states where the law might be 16 or 18, statutes allow judges to depart downward and allow marriage in cases where the girl is pregnant, or where both families have agreed to the marriage. So, instead of going to dance practice or playing on the soccer team at school, a barely pubescent girl in some cultural circles will leave her family home to become the sexual plaything of some deviant whose caveman moral code has told him it's completely okay.

Recently, the efforts of Unchained got a bill passed through the New Jersey senate, but it was vetoed by the governor who deemed that the problem didn't create any pressing "social ills." No? A 70% divorce rate, domestic slavery, sexual abuse of a child – these don't create any burdens for us taxpayers (not to mention the lifelong emotional damage of the "bride")? The governor and others who have failed to see this as a problem need to get their collective heads out of their asses and take action.

Girls who have been brave enough to escape these marriages, by the way, have been deemed as outcasts in their respective cultural circles and even disavowed by their own parents. Some who have literally escaped their pedophile captors have met with the brick walls of an inadequate social structure: Domestic shelters won't take unaccompanied minors, considering them "runaways," and, with no willing parents to help, a girl may have little or no legal ability to file legal action on their own. This is where Unchained at

Continued on page 8



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...AND NOTHING BUT THE TRUTH

Continued from page 6

Last and Fraidy Reiss, its founder, come in.

She founded the organization in 2011, after getting herself out of an arranged marriage and enduring the pain – to this day – of her family disowning her because of it.

“There’s nothing easy about getting out of an arranged marriage,” Reiss says. Her organization has been fighting for statutory sanity in minimum marriage ages, one state at a time. Unchained’s statistics show that there is no particular concentration of child marriages – they’ve occurred everywhere in the country, but Idaho leads the USA in per capita child marriages, while states like Texas, West Virginia and Kentucky all show high instances of minor child wedlock as well.

In the “developing world,” one in three girls is married by the time she is 18 years old. The developing world, I think we’ll all concede, far outnumbers developed countries like ours. That means that the global numbers of girls whose childhoods have been stolen from them – and replaced by the sudden expectation to be the sexual servant of an adult male – is staggering.

We are a country which accepts everyone, regardless of cultural or religious beliefs. People from all corners of the earth – developing and otherwise – have come here to enjoy the fruits of freedom. We are also a country which believes in our laws and we don’t allow cultural and religious beliefs to supersede those laws. But, somehow, we’ve let the fox in the henhouse with child marriage. We vigorously prosecute a 40-year-old man who has sex with a 14-year-old for a felony which could put him in prison for life. But, if he *marries* her, well, that’s another story. Legally, we’ve told 14-year-olds they can’t consent to sex; that’s why it’s rape. But, we let them marry, if it’s socially convenient.

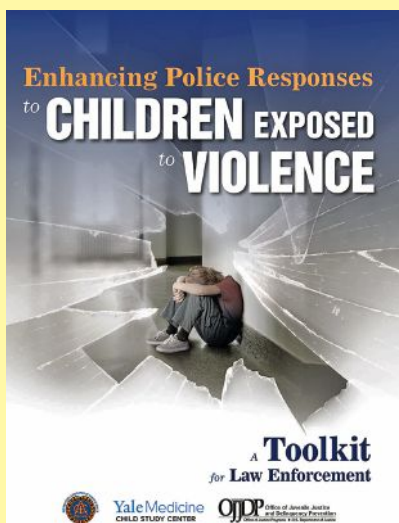
If you haven’t been sufficiently offended to take action, go to unchainedatlast.org and learn more, or send my friend Fraidy Reiss an E-mail to ask how you can help. It’s going to take us to stem the tide of this truly social ill. Young girls on American soil are due the same protections the rest of us have and there is nothing which excuses the exploitation and robbery of their childhood. **P&SN**

Ramesh Nyberg retired from law enforcement in November 2006 after 27 years in police work. He now owns his own private investigation agency, Nyberg Security and Investigations, and can be reached at Ramesh@NybergPi.com. He enjoys getting feedback from readers.

Office of Justice Programs Releases Toolkit to Aid Police Response to Children Exposed to Violence

NEWS

Acting Assistant Attorney General Alan R. Hanson recently announced the launch of the *Enhancing Police Responses to Children Exposed to Violence* toolkit. The toolkit is designed to equip law enforcement professionals with trauma informed, developmentally appropriate tools to effectively respond to children who have been exposed to violence.



Funded by the Office of Justice Programs’ Office of Juvenile Justice and Delinquency Prevention (OJJDP), the toolkit contains protocols, checklists and other field-tested and research informed resources to enable law enforcement leaders and frontline officers to improve responses to children who have encountered trauma.

“An officer’s response to children who have been exposed to violence can be critical to their recovery and a key factor in ensuring their resilience,” said Hanson, whose announcement was made during a special Congressional briefing as part of National Police Week. “This toolkit will help officers identify and minimize threats to child safety and foster closer engagement between law enforcement and youth.”

Officers trained in biological, neurological and psychological responses to trauma will be better prepared to recognize and identify these symptoms in their encounters with children and family members, and will be equipped to respond in ways which maximize both officer safety and positive outcomes for children and families.

“When children are not identified and supported in recovery following exposure to violence, they are at greater risk for a range of negative outcomes. Officers’ contact with those children can be crucial in how children recover following exposure to trauma,” said Eileen M. Garry, OJJDP’s Acting Administrator. “Now, we have a framework which enables law enforcement to plan, train and respond to help children reestablish a sense of security and stability which is essential to recovery.”

The toolkit was developed under a cooperative agreement between the International Association of Chiefs of Police, the Yale Child Study Center and OJJDP.

To download a copy of *Enhancing Police Responses to Children Exposed to Violence: A Toolkit for Law Enforcement*, visit <http://tinyurl.com/y93f94sr>.



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- Display and Mount have been tested to industry safety and vibration standards to ensure quality performance in rugged conditions.
- Compact design optimizes space for additional equipment and peripherals (keyboards, scanners, etc.) to be mounted in the cabin.
- Vehicle specific dash mounts for the touch screen display available for numerous models of Ford, Chevrolet, Dodge, and Nissan.
- Display, mount and peripherals can be bundled into a mobile office solution or purchased separately.

Learn more at havis.com

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New Artwork by Dick Kramer Studios

"St. Michael" is a brand-new black-and-white print by renowned artist, Dick Kramer. This 18" x 24" pencil drawing dramatically depicts the patron saint of police and military personnel. Dick Kramer, the world's foremost tactical artist, includes a variety of public safety professionals among his artistic repertoire. With his incredible skill, Dick is able to capture the strength, determination and humanity of these modern-day heroes.

Circle 4005 for More Information



M-Spec Now with Carbon Fiber

Sightmark has introduced the **Ultra Shot M-Spec FMS Carbon Fiber Reflex Sight** which features a carbon fiber protective hood, helping it weigh 30% lighter than other reflex sights. Boasting a 65 MOA circle dot crosshair with 2 MOA central dot reticle, it offers a scratchproof lens, cast magnesium alloy housing, and is submersible to 40 feet. Night vision compatible, its parallax-corrected optical lens system allows shooters to sight accurately from ten yards to infinity.

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New Gloves from First Tactical

The **Slash & Flash Hard Knuckle Gloves** can withstand high-level operations; feature a Kevlar® and goatskin Level II cut-resistant palm; and a Nomex® flame-resistant back without sacrificing durability, protection or comfort.

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SWAT/Tactical Equipment

Clip-on Thermal Imaging Capability

Available in five models, the **Armasight**, by FLIR® Apollo Pro, is a solid-state, uncooled, longwave infrared, 1x (unity magnification) clip-on thermal imaging device. Designed to mount in front of a variable magnification day sight on precision rifles and tactical weapons, it can also be used as a stand-alone thermal weapon sight or as a handheld monocular. The **Armasight** features an integral compass and inclinometer for enhanced target ranging.

Apollo Pro is offered in 336x256 and 640x512 pixel formats with professional-grade 50mm or 100mm Germanium objective lenses.

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HURST Jaws of Life® Introduces Six New Tools

HURST Jaws of Life, Inc. has announced the launch of six new tools, including cutters, combination tools and spreaders which give first responders more power, more speed and wider blade openings to get the job done.

The new tools include the **SP 777 Spreader** and **SP 777E2 Spreader**. The **SP 777 Spreader**

is slimmer and lighter than its predecessor. The **SP 777E2 Spreader** has a single integrated cylinder body design and large blade opening.

Also new are the **S 312 Cutter** and **S 312E2 Cutter** and the **SC 358 Combi** and **SC 358E2 Combi**.

All six tools feature the ergonomically designed star grip for tool actuation from almost any gripping position, and a dead man control valve which reverts to neutral position if a worker's hand slips from the control. All eDRAULIC tools come with two Li-Ion rechargeable batteries and one charger and each tool has an IP rating of IP54.

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New Long-range Riflescope

The **Sightron® SIISSLR (Long Range) Series** of riflescopes, available from Adorama, is designed for long-range tactical and competition shooting. The **SIISSLR Series** provides features found on scopes costing much more, keeping with Sightron's goal of providing quality optics at affordable prices. This new riflescope features a European-style, fast focus eye bell and is supplied with a 3" sunshade.

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LAW ENFORCEMENT LEADERSHIP

Managing Use-of-Force Incidents: Before and After

The nature of police work virtually guarantees that officers will become involved in confrontational situations and that they will have to use force at some point.

Michael Carpenter

As a supervisor, you probably won't be at the scene when it happens. Yet, even before a physical alter-

cation (or an allegation of use of force) between a citizen and one of your officers takes place, you may have already

contributed a great deal to the outcome of that use-of-force incident before it happened and you can certainly contribute a great deal to the outcome after it happened.

As a rule, subordinates will key on and often emulate the attitudes and actions of their supervisors. When a supervisor has a professional attitude in handling confrontational incidents and maintains a disciplined approach towards necessary and reasonable use of force against citizens when appropriate, then their subordinates are very likely to deal with the street situations they encounter in a similarly professional manner.

Here are a few hints on how to be sure that you are influencing your subordinates' actions as much as possible before they encounter a use-of-force situation on the street (and how to handle the inevitable incidents after they occur).

Before – Be Sure They Know the Rules

I would like to believe that every department has a current and updated policy and procedure regarding use-of-force situations. This policy should be consistent with professional standards which have been set by either the IACP or a state level accreditation program. In addition, this policy should be reviewed annually and this review should be doc-

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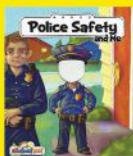
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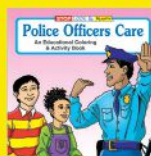
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umented. Any agency which does not take such steps is leaving themselves wide open for serious legal problems.

However, even when these proactive steps are taken, the department's official policies don't always reach the officers and others who are most likely to have to use force in the course of their duties. To protect everyone involved, supervisors should be sure that their officers know and understand their department's use-of-force policies. They should take responsibility for the proper training of their subordinates in this critical area. Don't rely on whatever limited in-service training which might be offered once a year (or not at all!). Supervisors must ensure that, not only do their subordinates know the rules, but also that they can apply the rules to "street" situations. This type of training can occur in the classroom, at roll call, one-on-one in the supervisor's office, or even over a cup of coffee out on the street.

The time for subordinates to become aware of the official use-of-force policies and procedures is before they have to use force, not while preparing testimony for their own trial.

Before – Discuss the Issues

Free and open communications between subordinates and supervisors can help clarify the issues involved in use-of-force situations. Subordinates need to know that unnecessary or unreasonable use of force will not be tolerated. Supervisors can use their influence and experience to teach their officers how to effectively use alternatives to force. They can also convey that, when force must be used, it should be the minimum necessary to affect the objective without unnecessarily endangering themselves, other officers or the public.

On the other hand, supervisors can also learn a great deal from this interaction with their officers. Subordinates can tell supervisors about patrol problems or departmental policies or procedures which may inadvertently lead them into unnecessary confrontations or use-of-force situations.

Open and frank discussions of past incidents or those which make the national news can also help everyone to put use-of-force issues into their proper perspective. Directly confronting those issues under "real-life" circumstances with "real-life" consequences will lead to

a greater understanding of the issues by everyone involved in the discussions.

After – Be Objective

Whether the allegation of use of force was minor or major, the investigating supervisor's role is to enter the investigation objectively and with an open mind. After a thorough investigation has been completed and all of the facts and circumstances surrounding the incident have been documented, then the supervisor can review the evidence and determine the appropriateness of the force which was used. To be fair, the finding of whether or not the use of force was justified and reasonable should be made from the perspective of the officer at the time and place that the force was used.

Officers should understand that supervisors will subsequently be required to investigate that use of force and they will have to document the circumstances of its use. Supervisors who remain objective, conduct a thorough investigation and fairly apply the appropriate laws and department policies to the situation will gain the respect and confidence of their subordinates. It will also ensure that their people will feel confident that their

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LAW ENFORCEMENT LEADERSHIP

Continued from page 13

conduct will be judged fairly in their next use-of-force situation.

Keeping an open mind can help you to “expect the unexpected” as your investigation develops. As sometimes happens, the truth may lie somewhere between two accounts of the same incident. Your job is to define exactly where.

After – Investigate Early and Be Thorough

Witnesses can disappear or be intimidated, physical evidence can be obliterated or altered, and weather and lighting conditions can quickly change. To protect everyone, start investigating use-of-force allegations as soon as possible after they are reported by citizens or officers. Even if it is routine or a minor case, it is best to gather the facts quickly. The more serious the injuries or allegations, the more effort should be put forth immediately.

One such case involving a supervisor's persistence involved a citizen who alleged that officers stopped his car, dragged him out and then beat him for no reason. He claimed that the officers

had slammed his face on the pavement, causing injuries to his nose and forehead. He clearly had such injuries at the time of his booking. The supervisor responsible for the investigation tracked down leads and made several trips to the scene of the arrest, attempting to find a witness to the incident. His diligence paid off when he found a recluse in the neighborhood who happened to be looking out her window and saw the whole incident.

Her version, consistent with the officers' version, was that, when stopped by the police, the driver jumped out of the car and started running across a yard to get away (because of an outstanding warrant). She stated that the police didn't have to catch him because he tripped on the border of a flower garden and landed flat on his face on the ground, thus receiving the “injuries.” She went on to say, “Those officers were much gentler with him than I would have been.” Without this diligence, the truth may not have been uncovered because the witness never left her apartment and would probably have not contacted the police regarding her information.

The findings in a use-of-force investigation have the potential to save or ruin careers, build up or tear down public trust and enhance or harm the reputation of your department. With so much at stake, the effort put into the investigation should reflect its importance. Whether it involves digging for that extra witness, searching for that extra piece of evidence or running down endless bad leads, you should do it with all of the investigative ability you can muster. Certainly, you would want that kind of investigation done if it were your career which was on the line.

After – Document Your Findings

“Get it in writing...” an old-time investigator would repeatedly tell his young officers. “If it isn't on paper, then it didn't happen,” he would further caution them. Complainants, witnesses and even officers tend to forget, change their stories or embellish the truth. Take formal statements, get them as soon as possible and make them part of your report.

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and detailed log of the leads you follow, the interviews you conduct and the evidence you find, or don't find. It may seem like a great deal of work at the time, but one little documented detail can make a big difference months, or even years, later in a courtroom.

From the beginning of the investigation, prepare as if the case was definitely going to court. The overwhelming majority of cases will not go to court, often because a thorough investigation reveals that the allegation was false or the force used was justified and reasonable. But, you never know for sure.

A plaintiff's attorney, once they get the real facts from someone other than their client, is not going to waste time on a case they can't win. On the other hand, if they see no investigation, or a poor investigation, they will head for the courtroom like a coon dog hot on a fresh trail.

The purpose of a use-of-force investigation is to document as many of the facts and circumstances surrounding the incident as possible. When a thorough and complete investigation is done by an objective and experienced investigator,

the final report will help to protect individual officers, the department and the public trust.

Ensuring that your officers know the use-of-force rules and having open discussions about critical incidents may seem like common sense to many experienced supervisors. Investigating allegations of force in a professional and thorough manner may also seem like common sense. However, too many supervisors, regardless of experience, underestimate the influence that they can have on use-of-force incidents – before and after they occur. **P&SN**

Note: Police Management Services, LLC is pleased to announce to the readers of P&SN that it is offering a new online supervisory training program. This online training is the equivalent of a four day training program at an academy. Please check their Web page at <http://policemanagement.com/expert.html>. For more information, you can reach them by E-mail at MCarpenter@policemanagement.com or by phone at (518)761-9708. Also, see their ad in this edition of P&SN.

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TECHNOLOGY FROM THE PAST

A TRAFFIC TOWER



In 1920, the city of Knoxville, TN, experimented with various ways to control traffic and keep the traffic policemen safe. They erected a tower which held a booth at the top which was then placed between two sets of trolley tracks.

There was one at the intersection of each pair of prominent streets. These operated independently, designed only to give the officer at each corner a better view and a better means of signaling. White lights were flashed to allow traffic to proceed; red to stop; green to indicate the rare condition when the corner was open in all directions. Mounted at the top of each booth was a horn which could be turned like a weather vane in any direction. In the event of a fire, it would scream its warning down the street where the fire engines would traverse and a path would be opened for the fire apparatus. In addition to this, a certain amount of coordination was achieved with a telephone which connected each officer to other officers positioned immediately north, south, east, and west of him. If a driver violated rules at one corner and got away from the officer there, he could be held up at the next one, or the one after that. Or, at the very least, a license plate number could be written down to give future attention to any infraction.

But, to officers and drivers alike, the isolation and protection afforded the traffic guardian was the most appealing feature of these booths. With an electric fan and an electric heater, the occupant of the booth could resist sun and snow, and, with a roof over him, he needed nothing else. This meant more to the traffic than it did to the traffic officer, for traffic regulation from these booths worked as effectively in slippery weather, when the danger of accidents was at a maximum, as on the fine days when visibility and car control were at their best. **P&SN**



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SKU	PL76513	PL76501	PL76503	PL76507	PL76509
Model	XQ30	XQ38	XQ50	XP38	XP50
Objective lens	F30 / 1.6	F38 / 1.2	F50 / 1.2	F38 / 1.2	F30 / 1.2
Sensor, resolution	384 x 288	384 x 288	384 x 288	640 x 480	640 x 480
Pixel pitch, μm	17	17	17	17	17
Frame rate, Hz	50	50	50	50	50
Magnification	1.6 ... 6.4	2.1 ... 8.4	2.7 ... 10.8	1.2 ... 9.6	1.6 ... 12.8
Field of view, deg	12.4	9.8	2.7	16.3	12.4
Range of detection, yd	985	1475	2000	1475	2000
Dimensions, in	11.3 x 2.8 x 2.6	11.2 x 2.8 x 2.6	11.5 x 2.8 x 2.6	11.2 x 2.8 x 2.6	11.5 x 2.8 x 2.6
Weight, oz	16.9	18.3	19.7	21.1	21.8

Circle 4022 for More Information

PRODUCT HIGHLIGHT



ARKTIS NORTH AMERICA

The **Arktis B221 Special Forces Parka**, developed for, and by, the German KSK Kommandos, features 15 pockets, including six large cargo pockets with a storm flap and NATO-style taped buttons; zippered internal pockets; sleeve pockets; a two-way front zipper; VELCRO® cuffs; a storm hood; a waist cord; and underarm ventilation. It is made in the U.K. of Mil-Spec poly-cotton ripstop fabric and is available in eight colors/camos.

Circle 4023 for More Information



FOX TACTICAL

The **Rifle Stack Mag Pouch** is designed for the field, by people in the field. The quick deploy design allows access to the magazine without the hassle of unstrapping anything. Wraparound elastic cords make retrieving magazines easy and also secure them in place. They are available in two, four, and six stacks.

Circle 4024 for More Information

Police Apparel and Accessories

ELBECO

The enhanced **VSS1 suspension system** seamlessly replaces the need for belt keepers, while its patented design redirects the weight of a duty belt off your hips and lower back. It is now available with its newly enhanced adjustable shoulder pads and an optional crosspiece.

Additional features include its quick release duty belt clips and free-floating straps which glide inside vest tunnels.

Circle 4025 for More Information



DESANTIS GUNHIDE®

The **#132 Speed-Lite™** is the speedy version of their Tac-Lite holster. DeSantis eliminated the thumb break for an even faster draw. It is built from premium saddle leather in black or tan. It is molded to the exact specifications for secure and concealable carry. This model features three slots for multiple carry positions.



Circle 4026 for More Information

DESANTIS GUNHIDE®

The **#137 Slim-Tuk™** for the GLOCK® 43 with a Streamlight TLR-6® is a new, minimal, ambidextrous IWB holster fashioned from Kydex® sheet. One of the most unique features about this IWB holster is that it uses the tuckable 360°™ C-Clip which affords the wearer unlimited mounting options. The hardware can easily be reversed to change from right to left.



Circle 4028 for More Information



DICKIES®

The **Men's Ventilated Ripstop Tactical Shirt** features flexible fabric and ventilated mesh panels to help keep cool in warm climates. Hidden pockets, loops and adjustable closures provide ample and covert storage. With a functional, lightweight, durable design, the **Ventilated Ripstop Tactical Shirt** offers versatility for a wide range of applications. It is available in black, desert sand and midnight blue.

Circle 4027 for More Information

DICKIES®

The **Men's Stretch Ripstop Tactical Short** is engineered to provide performance in hot and humid climates. Its lightweight design keeps you cool, while the comfort waistband and flex ripstop fabric ensure comfort whether seated, standing or running. Roomy cargo pockets with a built-in mag pouch, covert handcuff pocket and front knife pocket make your magazines and cell phone immediately accessible.

It is available in black, desert sand, green and midnight blue.

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"Above and Beyond..." salutes Senior Police Officer Daniel Whitney of the Athens-Clarke County, GA, Police Department

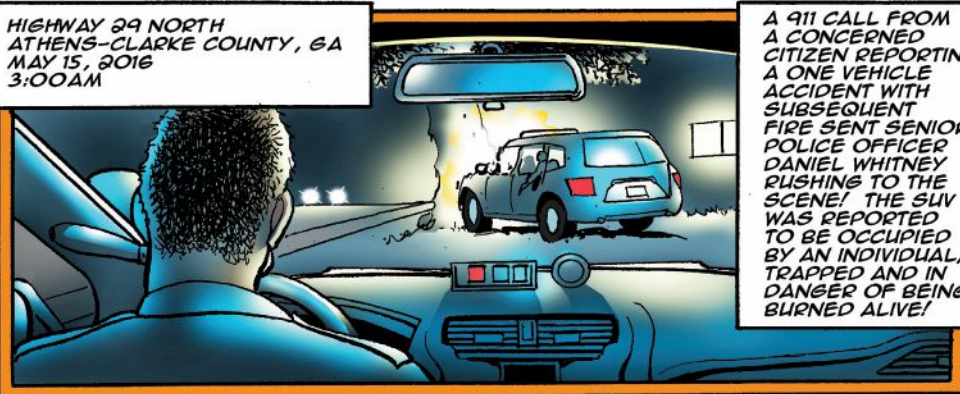
Artwork
by Don Lomax

A video
of this
incident
can be
viewed here:

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HIGHWAY 29 NORTH
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MAY 15, 2016
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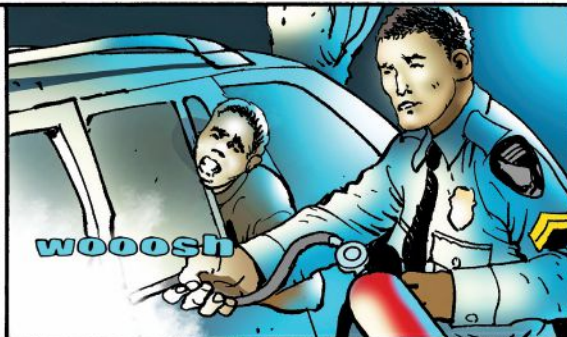


A 911 CALL FROM A CONCERNED CITIZEN REPORTING A ONE VEHICLE ACCIDENT WITH SUBSEQUENT FIRE SENT SENIOR POLICE OFFICER DANIEL WHITNEY RUSHING TO THE SCENE! THE SUV WAS REPORTED TO BE OCCUPIED BY AN INDIVIDUAL, TRAPPED AND IN DANGER OF BEING BURNED ALIVE!

THE SUV HAD COLLIDED HEAD-ON INTO A TREE IN A CITIZEN'S FRONT YARD AND THE ENGINE COMPARTMENT WAS FULLY ENSHROUDLED IN FLAMES. OFFICER WHITNEY GRABBED HIS FIRE EXTINGUISHER FROM THE TRUNK OF HIS PATROL UNIT. WHEN HE REACHED THE VEHICLE, HE FOUND A MAN JAMMED IN THE SMALL BACK WINDOW WITH JUST HIS HEAD AND ARM PROTRUDING!



OFFICER WHITNEY HIT THE FIRE WITH HIS EXTINGUISHER TO KNOCK IT DOWN SO HE COULD ATTEMPT TO OPEN THE DOOR, BUT IT WAS JAMMED! THE HEAT WAS SEARING!



HE TRIED THE OPPOSITE DOOR! IT WAS ALSO JAMMED! THE REAR HATCH OPENED, BUT THICK, BLACK SMOKE PREVENTED RESCUE FROM THE REAR! THE FLAMES WERE NEARLY UNBEARABLE! OFFICER WHITNEY RETURNED TO THE TRAPPED MAN...



WITH SHEER BRUTE FORCE, OFFICER WHITNEY MANAGED TO FORCE THE DOOR OPEN JUST FAR ENOUGH TO PULL THE MAN FROM THE INFERNO AND, WITH THE HELP OF FELLOW OFFICERS, DRAGGED HIM TO SAFETY BEHIND HIS PATROL CAR. EVEN SO FEET AWAY, THE HEAT WAS UNBEARABLE. UNFORTUNATELY, AFTER THE FIRE WAS EXTINGUISHED, FIREMEN FOUND THE DRIVER DECEASED IN THE FRONT SEAT.



SENIOR POLICE OFFICER DANIEL WHITNEY WAS NOMINATED FOR A NATIONAL AWARD WHICH RECOGNIZES LAW ENFORCEMENT OFFICERS FOR "EXCEPTIONAL EFFORT, CREATIVITY AND ACHIEVEMENT."



THE END



NRA 2016 Law Enforcement Officer of the Year

It is with great honor and pride that the National Rifle Association recognizes Officer Jason F. Falconer, of the Avon Minnesota Police Department, for his valor, heroism and quick, life-saving actions by naming him the 2016 National Rifle Association Law Enforcement Officer of the Year.

On the evening of September 17, 2016, Officer Jason Falconer was off duty in plain clothes at the Crossroads Mall, co-located in the City of St. Cloud and City of Waite Park.

While shopping, Officer Falconer's attention was drawn to two loud, sharp noises and saw some shoppers running and screaming. An individual dressed in a security uniform then walked up to him and asked him if he was Muslim. Officer Falconer answered no. As the individual turned, Officer Falconer could see that he had a large knife in each hand. Without hesitation for his personal safety, Officer Falconer immediately drew his concealed off-duty handgun, announced he was a police officer, and ordered him to drop the knives.

Unbeknownst to Officer Falconer, the subject had started a stabbing spree outside the mall, where he had asked numerous shoppers if they were Muslim, and if not, assaulted them, shouting "Allah Akbar." The suspect then entered the mall and continued stabbing 10 shoppers in all and punching many others in the head, back, neck and face. There was so much chaos that after-action reports showed that 95 separate 911 emergency calls came into the emergency communications center.

Rather than dropping the knives, the knifeman turned and ran through the mall and into a crowded major department store with Officer Falconer in pursuit. The suspect abruptly turned, stopped, and then laid down as instructed by Officer Falconer. Seeing that the knifeman had not dropped the knives, Officer Falconer kept ordering him to do so. Just as abruptly as the suspect had stopped, he jumped up and charged at Officer Falconer with the knives.

Coming under immediate attack, Officer Falconer fired his off-duty handgun several times at the suspect while backing up to create distance between them. Officer Falconer fell down briefly, and the knifeman fell after being struck, but he did not drop the knives.

Witnesses confirm that Officer Falconer continued to issue commands to the attacker to stay down and drop the knives, identifying himself as an off-duty officer verbally and by displaying his police badge while he kept the knifeman covered at gunpoint.

Just as the incident seemed to be over, the knifeman suddenly rolled off of the floor and began moving between clothing racks, circling as Officer Falconer continued to order him to drop the knives and get down. Instead, the suspect charged, with Officer Falconer firing additional rounds at him head-on. The suspect turned and walked backwards towards the officer, acting as though the rounds could not strike him if he was not facing the officer.

Surveillance videos and witnesses confirmed that, after several more hits, the knifeman fell to the floor on his stomach, only to get up on his hands and knees and crawl towards Officer Falconer with a knife in hand. The knifeman finally dropped face down, and Officer Falconer moved to a position to block the knifeman from the open area of the mall until responding police arrived.

Officer Falconer's heroic actions under the most stressful and confusing circumstances while off duty ended a crazed knifeman's melee, clearly saving lives and stopping the severe injury of countless innocent shoppers. His actions are a credit to himself, his department, and the community he serves and are in keeping with the highest traditions of law enforcement.



Officer Jason Falconer
Avon Minnesota
Police Department

"I join the 5 million members of the National Rifle Association in honoring Officer Falconer as the 2016 NRA Law Enforcement Officer of the Year for his uncommon bravery, quick thinking and heroism," said NRA President Allan D. Cors. "Officer Falconer is the ultimate example of a law enforcement professional and responsibly armed citizen exercising his Second Amendment rights to not only defend himself, but to protect those around him from harm."



Scan this code with your smartphone or tablet to get more information about the NRA Law Enforcement Officer of the Year recognition.

Forms for nominating candidates for the NRA Law Enforcement Officer of the Year Award may be downloaded at <http://le.nra.org/documents/pdf/law/leoy.pdf>.

For more information about NRA's Law Enforcement Officer of the Year Award and its Law Enforcement Division, call (703) 267-1632 or send an e-mail to LE@nrahq.org.

Circle 4031 for More Information

"Leadership is action, not position."

~Donald H. McGannon

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NEWS



Best Practices for Incorporating Social Media into Exercises

Social Media Working Group for Emergency Services
and Disaster Management and DHS S&T First
Responders Group

March 2017



New U.S. Department of Homeland Security Report Shares Best Practices, Guidance and Case Studies for Using Social Media in Public Safety Exercises

The Department of Homeland Security has released a new report, *Best Practices for Incorporating Social Media into Exercises*, which seeks to do the following: discuss best practices for consideration when integrating social media into exercises, including objectives for doing so (e.g., using social media for communications or leveraging information from social media to support operational decision-making); discuss social media's role in exercise design; identify social media exercise planning elements in the Homeland Security exercise and evaluation program practices; address the need for the integration of social media into all aspects of preparedness, response and recovery, including exercises and training to ensure operational implementation and longevity; and discuss challenges associated with integrating social media into exercises, including policy, technical and procedural challenges.

You can download the report at
<http://tinyurl.com/y8v3uj6u>.

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The 24th Annual Report on the Latest Advances in Ballistic Armor Technology and Design

Rebecca Waters

“I was very lucky, actually. We had a traffic stop...and I initially thought the guy was in need of medical attention. He had blood on his face, he was drooling, vomiting, and I kind of looked over the car a little bit and said, ‘Hey, are you okay?’.... He had a .45 right under his leg...he pulled it out and shot me once in the chest. Luckily, I was wearing my body armor.... It was a dead-on heart shot...it saved my life.”

Accounts like this one from Kyle Russell, a K-9 police officer with the Alexandria (VA) Police Department, of random attacks against police officers are becoming increasingly common. For many officers like Russell, body armor makes the difference between life and death. ([youtube.com/watch?v=uqysTJZ2yF8](https://www.youtube.com/watch?v=uqysTJZ2yF8))

State of the Industry

While there hasn't been a revolution in body armor technologies over the past year, industry experts agree that there have been incremental improvements in the overall weight and bulk of body armor

solutions. “The reduction of weight and increased performance of body armor has been due to the advancement of Ultra-High Molecular Weight PolyEthylene (UHMWPE) materials like Dyneema®. Officers today are seeing the lightest and highest performing armor in the history of body armor,” says Michael Foreman, EVP of International Business Development, Federal Sales and Marketing, Point Blank Enterprises.

“Achievements continue to be realized in the ongoing quest for thinner and lighter armor which maintains, or exceeds, the expected protection levels,” says Georg Olsen, Sales Manager at U.S. Armor Corporation. “When their armor is fitted properly and tailored specifically to them, officers can no longer use the excuse, ‘It’s too heavy and uncomfortable!’ This serves our primary goal which is to increase body armor wear rates.”

Industry Challenges

Not all changes in the body armor industry are good, however. Olsen fears

that the pressure to develop new products which are thinner and/or lighter may lead to the release of substandard products. “Being ‘first’ with something is not always a good thing, and manufacturers need to be careful not to take products all the way out to the performance limits...it’s always wise to leave room for a margin of error,” he says. An influx of companies in the industry is also worrisome, he says. “I’m very concerned about the dramatic increase in new companies marketing armor products which have no longevity or background experience with these products.”

Body Armor Certification

The National Institute of Justice Compliance Testing Program (NIJ CTP) ensures that products meet stringent standards and perform as expected by maintaining a list of compliant products and provide manufacturers with statements of compliance to be placed on their products. Concerned that some manufacturers were mimicking the NIJ statement of compliance, the NIJ has now registered its new Certifi-

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BODY ARMOR UPDATE: 2017

cation Mark with the US Patent Office.

The NIJ Mark is currently in use only by ballistic-resistant body armor manufacturers and may only be used on specific models which have both demonstrated compliance with NIJ Standard 0101.06 and participated in the FIT surveillance program. (www.justnet.org/howto/NIJ-Mark.html)

"This registered mark will help officers and agencies ensure that what they require and order is in fact what they receive. Having the NIJ Certification Mark will help prevent knockoffs, protect the end-users and prosecute those who breach the market with substandard products," Foreman says.

Even bigger news regarding the NIJ is its plan to eliminate Level IIA vest certifications by the end of the year, Olsen says. "They feel that the increase in street level firepower has created the need to raise the protection. This would create a significant issue for agencies who currently issue the Level IIA vest, including some very large agencies like the Chicago PD and the Los Angeles County Sheriff's Department," Olsen adds.

Shopping for Body Armor

"Shop for 'best value,' not lowest price...they are often not the same thing," recommends Olsen. "When you publish highly limiting, 'tight' bid specifications and

award based solely on price, you cheat yourself out of the chance to compare several product offers and select what's best for your agency."

Be sure to test and evaluate prospective body armor purchases and confirm their technical data, Foreman says. It is a misconception that all published data and specifications are accurate.

Olsen concurs, "I have also noticed a highly disturbing trend of ballistic plates being marketed which imply they will do things they cannot do. In-house testing by the manufacturer is not the same thing as testing by an NIJ Certified Laboratory, and documentation should be required."

Olsen and Foreman also agree on the importance of insisting that vendors have proof of product liability insurance. "Be sure that the supplier has current and sufficient liability insurance coverage; require that it provide a Certificate of Additionally Insured," Olsen says. The product manufacturer should also have and maintain ISO Certification of its manufacturing and business processes during the entire useful lifespan of the armor you are purchasing, he adds.

Common Misconceptions

Education is crucial in ensuring that body armor effectively saves officer lives. Some common misconceptions can put officers in danger. Foreman identifies the belief that In Conjunction With (ICW) plates can be used with any soft armor as a frequent misconception. "ICW plates are only certified with the original ballistic solution they are tested with," he cautions.



As women's roles in law enforcement continue to grow, body armor is being designed specifically for the female physique.

The most common misconception I encounter involves soft (or hard) trauma plates worn on the chest area of concealable vests, says Olsen. "They are called *trauma plates* because that's what they are for – to provide additional protection against blunt trauma injuries in the most vulnerable area, not ballistic protection. A Level IIIA is a Level IIIA, no matter what it's made from, and two of them together won't make a Level III," he notes.

Female Body Armor Fit

As the number of women in law enforcement increases, so has the need for gender-specific body armor. Body armor for women specifically modifies the fit over the officer's chest and hips to ensure that women can achieve the same

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Circle 4036 for More Information

level of protection and comfort as men, a US Department of Homeland Security Tech Note explains. "When flexible armor is designed for the female physique, there are typically two different panels used – planar for the back and nonplanar for the front. Nonplanar panels are comprised of the same materials as planar panels, but are enhanced with additional stitching and folds to conform to the female physique."

In 2015, an NIJ CTP Administration Clarification document specified that body armor containing two panel designs must undergo two sets of testing to ensure compliance with Standard 0101.06. Furthermore, the 2017 application for Bulletproof Vest Partnership grants requires law enforcement agencies seeking funding for body armor through its program to certify that they are aware of, and will comply with, the 2015 rule which states that grantees must provide armor vests to law enforcement officers, including vests uniquely fitted to individual female law enforcement officers.

Material Innovations

The US Naval Research Laboratory may have solved the inherent weight problem of body armor with its new lightweight, transparent, thermoplastic, elastomeric armor. The material purportedly has superior ballistic properties and can be repaired in the field due to its crystalline structure. Simply heating the armor to 100° Celsius melts the crystallites, allowing them to meld and reform, says Dr. Mike Roland,

Senior Scientist, NRL Soft Matter Physics. In addition to applications as a coating for helmets and armor, the material could replace bulletproof glass. (<http://tinyurl.com/y9dzqx3q> or <http://tinyurl.com/19t4z8m>)

Foreman and Olsen caution against betting too much on the emergence of dramatically new technologies, however. "There has been new media attention on the potential application of 'shear thickening fluids,'" Foreman says of the metal foam technology we reported on last year (<http://tinyurl.com/harrjkv>). "Research and development of this technology has not resulted in the application of its use in body armor yet."

"There has been some recent buzz about 'new' materials and construction methods, but they are actually derived from older technology which has been around for a while and still hasn't been proven consistent enough for regular commercial application," Olsen says. "Also, any truly revolutionary technological achievements in personal armor would most likely be commandeered for military applications and not be available to law enforcement for some time."

New Ballistic Protection Products

ATS Armor™, LLC

At six pounds, ATS Armor's Type IIIA Patrol Shield provides ultralight, multishot handgun protection. With a high density foam arm guard and adjustable VEL-



The Type III Tactical Shield from ATS Armor™ weighs in at 19 pounds.

CRO® straps, this 20" x 30" reversible design works for both right- and left-handed shooters. Optional features include a rectangular shape, a larger size, a Level IIIA ballistic viewport and a light system.

The Type III Tactical Shield offers lead core rifle rated protection and weighs just 19 lbs. This 20" x 30" shield provides multishot protection. Optional features include a larger size, a Level III ballistic viewport, a horizontal handle and a light system.

ATS Armor's QuadCurve™ ICW hard armor plates are available in Type IIIA, III, III++ and IV. The Type III, III++ and IV plates are certified to the current 0101.06 standard (NIJ does not have a standard for hard plates at level IIIA) and are compliant with the NIJ's new Certification Mark labeling requirements. (atsarmor.com)

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BODY ARMOR UPDATE: 2017

Angel Armor™

Angel Armor's Enlight™ Window Armor is a drop-in clear vehicle armor panel which provides NIJ Level IIIA defense while allowing for civilian interaction. The



Enlight™ Window Armor does not interfere with door functionality.

Avail™ Ballistic Door Panels – providing customers with full door coverage and designed to pair with the Enlight Window Armor – are now available as an NIJ Level III door panel for select vehicles.

The enhanced Truth SNAP™ Magnetic Plate System consists of modular trauma plates which deliver concealable rifle threat protection for extended all-day use. The Truth SNAP system provides tiered threat protection, allowing users to armor up or down as the mission requires. (<http://armor.angelintelligence.com>)

Armor Express

The Razor™ Gen 2, Armor Express' lightest ballistic armor is NIJ 0101.06 certified and utilizes a proprietary blend of Twaron® aramid and Dyneema fabric which features extremely thin construction and reinforced stopping power.

Their new Laser Cut Plate Carrier (LCPC) is designed to fit most hard armor plates and gives the operator a platform with laser cut MOLLE attachment points which will accept most MOLLE pouches, IFAKS and pockets. At less than 3/4 pound, the LCPC is a hard armor solution



The Razor™ Gen 2 utilizes a proprietary blend of Twaron® aramid and Dyneema® fabric.

which won't soak up or hold water when wet, keeping the carrier lighter and dryer than standard MOLLE material.

Armor Express' next generation Ara-Shock Level IIIA plates, as well as H-Shock, C-Shock and Harrier rifle plates offer improved ballistic performance, modularity and size options for any threat encounter. (armorexpress.com)

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Visit our website to learn more: [ARMOREXPRESS.COM](http://armorexpress.com)



Circle 4038 for More Information



The new Laser Cut Plate Carrier from Armor Express will accommodate most hard armor plates.

Baker Ballistics

Baker Ballistics' new large-sized model of MRAPS® Series NIJ Level IV ballistic shield, supported by The Reaper™, an exoskeleton load-bearing invention by Advanced Accuracy Solutions, provides tactical shield users the ability to deliver

dominating firepower while safely positioned behind a highly maneuverable NIJ Level IV ballistic shield. The Reaper Shield Support (TRSS) system is lightweight, fully enclosed, adjustable, durable, and portable. The system eliminates operational equipment weight positioned forward of the user, transferring it to the torso, allowing for effortless vertical, horizontal, shock-absorbing shield support, and cre-



The TRSS system allows an NIJ Level IV ballistic shield to be exceptionally maneuverable.



Baker's Ballistic Rough Operations Cover can be quickly utilized by a second officer.

ating a stable weapon aiming platform capable of supporting a long gun to deliver accurate firepower upon threat.

A new optional (Level IIIA) armored shield cover, the Ballistic ROC (Rough Operations Cover), has recently increased the capability of the system.

The new ten pound Ballistic ROC offers a number of advantages – this armor

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Circle 4039 for More Information

BODY ARMOR UPDATE: 2017

panel can be quickly lowered to provide additional Level IIIA cover beneath the shield, dropping down to protect the operator's legs, including the knees.

The B-ROC can also quickly detach from the primary rifle protective shield, providing an additional large-size ballistic shield for use by a second officer. Both the MRAPS-IV-XL and Ballistic ROC shields allow ambidextrous use of handguns or long guns to allow accurate return fire. (bakerballistics.com)

DFNDR Armor™

The DFNDR Level III+ rifle plate is NIJ 0101.06 certified, lightweight (2.5 lbs. M) and special threat tested. DFNDR Armor is engineered with high-grade ballistic materials: an UHMWPE fiber bound with a resin matrix to make it a rigid standalone hard armor system. This plate is tested at muzzle velocity, mitigates spall and has no deflection.



DFNDR™'s lightweight Level III++ rifle plate features a multicurve ergonomic design.

The DFNDR lightweight Level III++ rifle plate weighs 4.0 lbs. (M), features a multicurve ergonomic design and is rated for multihit. Developed to stop the 5.56x45mm M855/SS109 green tip threat, the system is integrated with an UHMWPE fiber. The plate has been tested at an NIJ complaint laboratory in accordance with the NIJ 0101.04 protocol standard. (dfndrarmor.com)



The new PH2 offers optional cummerbund ballistic inserts.

GH Armor Systems

GH Armor's new PH2 Tactical Plate Harness is designed for rapid response in active shooter situations. This plate harness is built in both shooter's and full cut platforms, as well as standard and slim fit for varying plate thickness. Optional padded shoulders provide weight distribution and expansive MOLLE webbing allows for customization. The PH2 provides ex-



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Circle 4040 for More Information

In Action

New York City Mayor Bill de Blasio plans to spend \$10.4 million to outfit all New York Police Department patrol cars with Hardwire®'s bullet-resistant window armor, following a pilot program which began in 2016. The city had already allocated \$6.8 million to install the company's bullet-resistant panels on the department's 3,813 patrol cars.

tended coverage with a fully adjustable cummerbund and optional cummerbund ballistic inserts. (gharmorsystems.com)

Hardwire®, LLC

The Hardwire "B-Kit" Vehicle Door Armor panel attaches to the outside of a vehicle door using anti-tamper fasteners. The lightweight, high performance armor provides NIJ Level IIIA+ protection. The armor skin is OEM color matched to blend with existing vehicle color and accepts decals to match police department markings. Designed with durability in mind, the armor will remain securely in place during vehicle operation in any scenario.

The Hardwire Transparent Armor Win-



Hardwire®'s "B-Kit" Vehicle Door Armor provides NIJ Level IIIA+ protection.

dow Insert is a custom designed piece of transparent armor which seamlessly covers the existing window in a police car door. It provides ballistic protection (NIJ 0108.01 IIIA+) for the officer while still allowing for community engagement. Armor protects against handgun and shotgun ammunition. The insert requires no modifications to the car and the OEM window still operates normally. Windows are available for various vehicle variants, including Ford Interceptor, Impala, Taurus, Chevy Van, and others. (hardwirellc.com)

Point Blank Enterprises, Inc.

Point Blank is now providing a patented, ultralightweight, laser cut fabric for select tactical carriers with greater ripstop and strength than previous fabrics on a weight by weight and thickness basis. Engineered to withstand extreme environmental conditions while providing lightweight comfort for extended wear, this laser cut fabric is ideally suited for tactical operations.

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Circle 4042 for More Information

BODY ARMOR UPDATE: 2017

PACA and PARACLETE® vests. ARMOR-VENT utilizes an air channel ventilation pattern which helps to evaporate sweat. It also conducts heat away from the skin and helps to prevent the growth of bacte-

ria. ARMORVENT panels are available in multiple sizes and can be integrated into a carrier or purchased as a retrofit kit.

Ultralight, durable and constructed with Point Blank's laser cut technology, the Bikini Plate carrier accommodates Level III or IV hard armor plates and equipment pouches in a webless design. This new plate carrier has excellent load bearing capabilities, enhanced adjustability and a contoured shape for increased movement.



ARMORVENT® utilizes an air channel ventilation pattern which helps to evaporate sweat.

For instant access to essential gear, the PARACLETE Chest Rig, which is very lightweight (.65 lbs.), allows an operator to quickly don it over existing body armor and deploy equipment. The chest rig can accommodate a variety of pouches to hold pistol/rifle mags, a med kit and a variety of emergency items.

Adding the new PARACLETE Pylon Belt to tactical vests greatly improves weight distribution while minimizing fatigue. The Pylon Belt works by redistributing the weight from the shoulders to the pelvic area. Ergonomically designed to contour to the body, it not only improves the comfort of the vest, but also allows the operator to load additional equipment, as needed. It also allows for optional ballistic inserts for added protection.

The WARSOC™ (Warrior Special Operation Carrier) H3 Buckle System is specially engineered for tactical armor systems and plate carriers. It utilizes a slim "H" shape with a dual independent locking mechanism which allows an operator



The new **Bikini Plate carrier** accommodates Level III or IV hard armor plates and equipment pouches.

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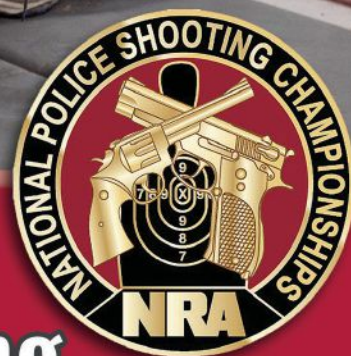
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BODY ARMOR UPDATE: 2017

to easily secure the vest while providing a faster deployment option, as well as prohibiting accidental or undesired release. (pointblankenterprises.com)

Safariland®

Safariland Armor's Matrix™ family of ballistic packages is engineered with a new proprietary hybrid design through a partnership with Teijin and Honeywell®. By combining woven material with Honeywell Spectra® and other nonwoven material, this lightweight panel provides a balance between blunt trauma reduction and ballistic resistance. Available in Level II and Level IIIA threat protection levels for both males and females.

With the integration of FirstSpear®'s polymer closure system, PROTECH®



PROTECH's All Purpose Vest utilizes the FirstSpear® polymer closure system.



The Boltless Helmet Suspension System is available on the Delta™

Tactical's All Purpose Vest provides full coverage ballistic protection with an additional closure option for comfort and ease. The FirstSpear Tubes™ closure system modernizes the tactical carriers, enhancing the ease of donning and doffing with a quick up or down single hand function. This lightweight closure system ensures the cummerbund is always positioned in the same location which is vital for proper ballistic coverage, and mitigates the risk of misalignment and incorrect attachment.

PROTECH's Boltless Helmet Suspension Systems maintain the helmet's ballistic integrity by eliminating bolt holes and feature a four point retention (either with pads or the R2S™ ratchet), thereby providing greater comfort with more adjustment options. The Boltless Helmet Suspension System is available on the Delta™ 4 line of helmets.

The Entry 1 FR US ballistic shield is the first in a series of Type IIIA Boltless Ballistic Lens Caps from PROTECH Tactical. The boltless design decreases the shield's overall weight and increases functionality by

eliminating the risk of a round penetrating a bolt or seam. The Entry 1 FR US shield is 24" x 36" with long arm weapon cutouts.

An economical 6.9 lb. multicurve Type IV plate, the Model 2014MC is NIJ 0101.06 compliant and addresses active shooter protection for first responders. Available in 10" x 12" shooters cut and 6" x 6" single curve, mini side plates, the Model 2014MC fits all PROTECH Tactical platforms and plate racks.

Until now, the R2S Ratchet System was only offered with a mesh crown suspension system. Now, this system is available with padding suspension which provides users with a more comfortable fit and is available on the Delta 4 and Delta 5 line of helmets which are available in full-, mid- and high-cut. (safariland.com)

U.S. Armor Corp.

The Enforcer 6000 is made in the USA using Core Matrix® technology with UHM-WPE fibers from Honeywell and DuPont®. These are combined in a thin, lightweight, low stitch ballistic package for a high performing, NIJ .06 certified ballistic vest (male < 1 lbs. per square foot). The Enforcer 6000 provides Level IIIA protection against .357 SIG (125-gr. FMJ) and .44 Magnum (240-gr. SJHP) rounds. (usarmor.com)

Looking Forward

What do we have to look forward to in the body armor industry over the next few years? As rifles become more common in armed confrontations, the industry has begun to shift its focus to advancements in hard armor technologies, Olsen and Foreman say. "There will be a redirection of weight reduction and performance increase goals to hard armor products, such as antirifle plates and ballistic helmets," says Olsen, "and there are definitely some gains to be realized there. I also see a renewed and expanded interest in improving hard armor for wider applications, such as armored door panels for police cars, public building entrance applications and speaker podiums for police and government officials."

Foreman and Olsen also agree that we will see a contraction in the number of vendors in the industry. "I believe there will be a consolidation of brands within the industry and that the updated NIJ standards will eliminate or make it more difficult for companies to offer products which could put officer safety in jeopardy," Foreman says. **P&SN**

Formerly the Editor-in-Chief for Forensic Magazine, Rebecca Waters is a freelance writer and editor.

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Circle 4047 for More Information

As every investigator knows, intelligence is a key to preventing and solving crimes.

Acquiring intelligence often involves time intensive analysis of the thousands of incident reports; crime tips; and other, often seemingly unrelated, pieces of data. Terrorism has compounded the volume of intelligence data to be analyzed and made it even more critical to do it in a timely manner.

How do you rapidly and systematically analyze a vast amount of data to produce useful intelligence which can be acted upon? The answer can be data mining and predictive analytics which analyze data from disparate sources and use the results to anticipate, prevent and respond more effectively to future crimes.

Nothing New Under the Sun

Data mining has been widely used in business; governmental agencies, especially intelligence agencies; and research organizations for years. For example, you research the possible purchase of a new vehicle, computer or just some towels for your bathroom via the Internet. Pops for Ford, Chevrolet or other auto brands; Microsoft® Surface® Pros or Apple® iPad®s; or Bed Bath & Beyond® start appearing on your computer screen. This is usually the result of data mining and predictive analytics based on your interests and buying habits.

Law enforcement has become very adept at collecting and compiling data, especially since the routine use of computerized records management systems. National databases like those of the FBI, OneDOJ, regional data sharing, and state level fusion centers are another layer of available data. Using techniques like artificial intelligence, statistical analysis and visualization methodologies, data mining can identify unusual or subtle patterns in this myriad of data. Data mining and predictive analytics moves from counting crimes to anticipating, preventing and responding effectively to it. Since criminals tend to be relatively predictable, by exploiting the data, law enforcement can be much more proactive in anticipating and preventing their activities.

Police investigators and crime analysts are natural data miners since they are already doing it in at least rudimentary ways. It is far easier to teach them how to use data mining techniques and apply them to



Data Mining in Law Enforcement

Bill Siuru, Ph.D., PE

law enforcement than to teach statisticians how to analyze law enforcement information. Data mining is an intuitive process; it is not crunching numbers and statistics. It is important that law enforcement personnel do the analysis themselves or participate very actively in the analysis. People doing data mining must understand law enforcement and criminal behavior so they can make informed decisions which actually solve and prevent crimes.

New Technology

The newer data mining tools – mainly commercial off-the-shelf software – do not require huge IT budgets, specialized personnel or advanced training in statistics. Well written software is highly intuitive, relatively easy to use, PC-based, and very accessible to the law enforcement community, even to smaller departments.

Analytic tools and techniques – like hot spot identification, crime mapping, geospatial prediction, and social network analysis – can be applied to a broad range of criminal justice problems. They can be used to anticipate localized crime spikes, impact city and neighborhood planning and aid in police management decisions. For instance, an increase in parole violators, highlighted by crime mapping, might mean the need to deploy more patrolmen in a particular area.

Specialized databases can be mined for crime or intelligence analysis. These databases might be offense-specific, such as a homicide or robbery database, or associated with a pattern of crimes. It could also mean including nontraditional data available, such as local medical and building code compliance data. For instance, areas with a large number of buildings with

numerous violations are great breeding grounds for crime; in other words, the “broken window policing.”



Data mining is not limited to large departments with software like IBM® i2® COPLINK®.

A Good Example

One example of successful data mining is the New York City Police Department's CompStat which is now also used by a number of other agencies in the U.S. and other countries. Police Commissioner Bill Bratton and his deputy, Jack Maple, introduced CompStat, a statistical system for tracking crime, in 1994. It is based on tracking and halting smaller crimes to stop bigger crimes and to pinpoint hot spots where crimes are clustered. In over two decades of use, it has helped make New York one of America's safest cities. For example, there were 1,946 murders in 1993, but only 352 in 2015. Besides looking more systematically at the information police were already collecting on reported crimes in different areas of the city and plotting them on maps to display trends, assignment of police around the city and crime hot spots is an important

Volume 23 Number 19

CompStat

Report Covering the Week
5/9/2016 Through 5/15/2016
Crime Complaints

	Week to Date			28 Day			Year to Date*			2 Year	5 Year	23 Year
	2016	2015	% Chg	2016	2015	% Chg	2016	2015	% Chg	% Chg	% Chg	% Chg
Murder	0	0	0.0	0	0	0.0	0	0	0.0	0.0	0.0	0.0
Rape	0	0	0.0	0	0	0.0	0	2	-100.0	0.0	0.0	0.0
Robbery	0	0	0.0	0	0	0.0	0	1	-100.0	-100.0	0.0	0.0
Fel. Assault	15	6	150.0	56	23	165.2	176	95	85.3	-15.4	0.0	0.0
Burglary	0	0	0.0	0	0	0.0	0	0	0.0	0.0	0.0	0.0
Gr. Larceny	0	0	0.0	0	0	0.0	1	1	0.0	0.0	0.0	0.0
G.L.A.	0	0	0.0	0	0	0.0	0	0	0.0	0.0	0.0	0.0
TOTAL	15	6	150.00	56	21	166.67	177	99	78.79	-16.51	0.00	0.00
Transit	0	0	0.0	0	0	0.0	0	0	0.0	0.0	0.0	0.0
Housing	0	0	0.0	0	0	0.0	0	0	0.0	0.0	0.0	0.0
Petit Larceny	0	0	0.0	0	2	-100.0	1	3	-66.7	-50.0	0.0	0.0
Misd. Assault	0	0	0.0	0	1	-100.0	2	5	-60.0	-33.3	0.0	0.0
Misd. Sex Crimes	0	0	0.0	2	2	0.0	7	3	133.3	600.0	0.0	0.0
Shooting Vic.	0	0	0.0	0	0	0.0	0	0	0.0	0.0	0.0	0.0
Shooting Inc.	0	0	0.0	0	0	0.0	0	0	0.0	0.0	0.0	0.0

An example of just a small amount of data available from CompStat

management tool for higher police officials to question and follow up on actions taken by subordinates.

In today's "do more with less" environment resulting from reduced personnel resources and added duties due to increased population and the war on terrorism, data mining can be used to make smarter assignment of personnel when, and where, they are likely to be needed. For instance, domestic violence calls which often increase dramatically during the midnight shift are more likely to require a greater amount of time, perhaps even require additional personnel. The day of the week might also be important, particu-

larly in communities with active nightclubs or bars. A complete analysis of all of the variables like the time of day or location of requested assistance often far exceed the analytical capacity of even the smartest human brain.

Case in Point

Here is a simple example of data mining. Every New Year's Eve, Richmond, VA, experienced an increase in random gunfire. Police began looking at data gathered over the years and, based on it, they were able to anticipate the time, location and nature of future incidents. Richmond police placed officers at those locations to respond more rapidly. The result was a 47% decrease in random gunfire and a 246% increase in the number of weapons seized. The department also saved \$15,000 in personnel costs.

The community must be confident that mined data is used appropriately. Data mining is not meant to spy on people, a misconception partly fostered by activities like the National Security Agency's problematic phone surveillance problem and perceived racial profiling by police. People are not arrested on the probability that they will commit a crime – probable cause must be shown. It does not identify specific individuals; it only predicts times and locations where crimes are likely to occur. It is important that the purpose and procedures used are transparent; that personnel are well trained so they use it properly; and it should be clear about what information is shared with other agencies. **P&SN**

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Bill Siuru is a retired USAF colonel. He has a Ph.D. in mechanical engineering from Arizona State University. For the past 45 years, he has been writing about automotive, aviation and technology subjects.

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Circle 4048 for More Information

Just Published Study: Autistic Individuals' Interaction with Police

NEWS

A new study about police interactions with autistic individuals who are on the autism spectrum disorder was published in the June issue of *Journal of Autism & Developmental Disorders*. The following is a summary of that research.

The Canadian study examined 284 Ontario (Canada) teens and adult caregivers over an 18 month period. The study, conducted by Tint, Palucka, Bradley, Weiss, and Lunskey, was a collaborative effort between Canada's largest mental health and addiction teaching hospital, the Centre for Addictions and Mental Health, and York University (Ontario, Canada).

The Study's Purpose

Per the researchers, the study focused on describing police interactions with adolescents and adults who are on the autism spectrum disorder; the satisfaction with those interactions; and to examine correlates of police involvement of those surveyed.

Its Findings

Approximately 16% of those studied had interactions with the police. In 19% of cases, the person was placed into restraints by police officers. The most common reason for restraining the person was his (or her) aggression. The study also found people with less severe autism were just as likely to interact with the police.

Several variables were identified for those who had interactions with the police: they tended to be older; they had a history of aggression; they lived outside of their family homes; their parents had higher rates of caregiver strain; and their parents had more financial difficulty. Reportedly, 66% of those families who had interactions with the police described being satisfied.

Dr. Yona Lunskey said about meeting an autistic individual, "If you met one person with autism, you met one person with autism." In short, each autistic person is unique.

The abstract of the article, "Correlates of Police Involvement Among Adolescents and Adults with Autism Spectrum Disorder," can be found at <http://tinyurl.com/y7e2pd3v>.

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Circle 4050 for More Information

DNA Phenotyping Shows Results

One of the benefits of this technology is a significant reduction of the suspect pool which can save time, money and manpower.

Kathy Marks



Simply stated, DNA phenotyping predicts the physical appearance of an unknown person from their DNA. This technology helps to generate investigative leads; narrows the suspect list or assists when there are no suspects or database hits; and assists with mass casualty situations and identifying unknown remains. Companies committing resources to developing this technology utilize a number of different approaches.

Identitas Corporation

Laurence Rubin, Chief Executive Officer and Director of Identitas, stated that IDentify is a computer algorithm developed to analyze multiple DNA markers and produce phenotypic data. IDentify uses both public and proprietary SNP markers which improve the accuracy and utility of the analyses for investigative purposes.

Rubin stressed that the information produced is not evidentiary, but rather investigational. It is a tool for the investigator to refine his focus or consider another direction.

When there are no arrests in the first 24-48 hours, investigators are some-



IDentify uses 800,000 SNPs which can extend relationship testing to a greater degree than current STR markers.

times stymied, when no additional evidence is available to advance an investigation. Current DNA profiling depends on reference samples in a database to use for comparison to the collected DNA evidence. When the quality or quantity of the DNA is poor or suboptimal and no "match" is in the system, present technologies are severely limited.

The IDentify process facilitates descriptive (phenotypic) results from

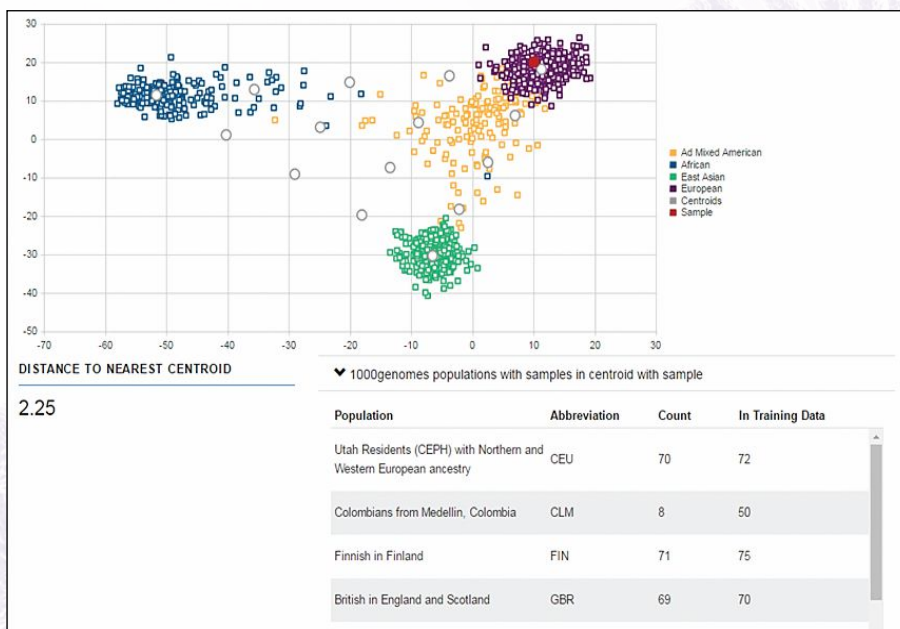
limited amounts of crime scene DNA without requiring reference samples. Compare it to scanning a barcode in a grocery store where a reference identifier is stored. If the barcode doesn't match any of the products stored in that system, then no information regarding the product or its cost can be obtained. The IDentify system doesn't use a "barcode"; instead, it constructs a "picture" of what the product might look like and

creates useful information to ultimately identify the product.

Rubin stated, "We strive to provide information in those cases where investigators are stuck and can't proceed. IDentify can potentially characterize relevant data, narrowing the pathways going forward, saving time and money."

Rubin stated that the quantity of DNA needed is very small, optimally five nanograms; although, in many cases, they have been able to generate actionable data with less. The scale required and the ability to perform more than one set of analyses provides advantages for crime labs, particularly when sample quantity is very limited. IDentify can generate data from DNA on gender, hair and eye color, and composite biogeographical ancestry – all in one single analysis.

IDentify can extend relationship testing to a greater degree than current Short Tandem Repeat (STR) markers, using 800,000 Single-Nucleotide Polymorphisms (SNPs) to delineate third- and, in some cases, fourth-degree relatives. This is important for mass disaster and missing persons' investigations.



Illumina charts the biogeographical ancestry results in detail.

Crime scene investigations' adaptation of new techniques may sometimes be slow due to needed validation and explanation, expensive equipment and the required adaptation of newer scientific skills. When the criminal justice

system becomes more comfortable with advanced DNA technologies, these and other approaches will be utilized to improve the quality, efficiency and accuracy of the investigative process. Rubin stated, "Identitas aims to be at the fore-



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DNA PHENOTYPING SHOWS RESULTS

Continued from page 39

front of this new era, as we have partnered with law enforcement on multiple occasions to improve and deliver our product.” Identitas’ goal is to produce a cost-efficient, rapid turnaround test, with an all in one process.

Toronto (Canada) Cold Case Homicide Investigator D/Sgt Stacy Gallant submitted 19 cases to Identitas for phenotyping in a real-world study project, using certain criteria to decide what best to submit. DNA had to have been processed at the Centre of Forensic Sciences and identified as coming from the offender, except in cases of found human remains. Other available investigative steps which had, or had not, been taken were considered and samples had to come from serious felony cases (homicide, sexual assault, armed robbery, found human remains).

The IDentify analysis corroborated the offender’s physical description for race/ethnicity in six cases. It provided a physical description which was not previously known in six more and, in two, it significantly changed the direction in the search for the offender due to the



Parabon®’s Snapshot™ provides a composite based on a subject who is 25 years old and of normal weight.



The Parabon® Snapshot™ age progression composite is based upon the normal patterns for someone of that ancestry relevant to how the subject might appear at a particular age range.

physical description provided. Toronto Police reported a high degree of satisfaction in these results.

Illumina

Cydne Holt, Associate Director, Forensic Genomics, at Illumina, stated, “The MiSeqFGx™ Forensic Genomics

System gives forensic testing the potential to deliver extended capabilities, higher resolution and greater efficiency – leading to more reliable results. The system is the first forensically validated, targeted, ‘massively parallel sequencing (MPS)’ solution, also known as ‘next generation sequencing (NGS)’

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for forensic genomics. MPS is the DNA sequencing 'gold standard'; the MiSeqFGx System brings that integrity to forensic DNA typing, bringing it to the modern age." The system consists of three parts: the ForenSeq DNA Signature Prep Kit, the MiSeqFGx sequencer and the ForenSeq Universal Analysis Software.

By combining multiple types of forensic polymorphisms into a single analysis, the MiSeqFGx system provides more actionable information in less time with the least amount of sample (<1ng), and at an attractive price.

Laboratory efficiency is increased by simultaneously reducing the number of "inconclusive" results and compiling all the genetic testing in one result. This makes multiple rounds of expensive, iterative testing a thing of the past. Additionally, unlike conventional methods, the MiSeqFGx system is able to target short, valuable DNA regions, allowing successful testing of old, degraded or inhibited samples.

Visible traits can be estimated by the MiSeqFGx System for use as "investigative leads." The system provides information about eye color and hair color, as well as biogeographical ancestry among population groups. It is used for missing persons' cases, unidentified human remains and when there's no known suspect and no database "hit."

These data are visualized and reported using the ForenSeq Universal Analysis Software, built specifically for forensic genomics, with the collaboration of forensic experts around the world. As more and more reliable forensic DNA targets are discovered and verified, Illumina seeks to offer broader and deeper visible trait information, in a highly accurate and responsible way.

David Ballard, Ph.D., a postdoctoral scientist, and Laurence Devesse, a forensic research associate, are members of the Forensic Genetics Group at King's College, London, led by Denise Syndercombe-Court, Ph.D. The team is at the forefront of forensic genomics and, through establishment of a Knowledge Transfer Partnership (KTP), their work with the MiSeqFGx Forensic Genomics System is leading the way in the maturation of modern forensic identification technologies.

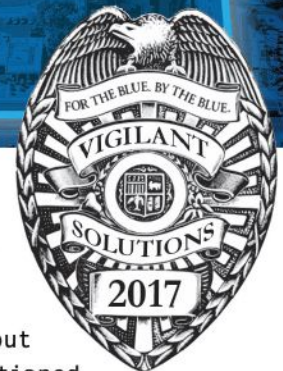
Their research has led to another use for DNA phenotyping. The Group

has successfully used the MiSeqFGx System for complex immigration cases. In the UK, individuals can apply for family members from abroad to come live with them. If they are turned down due to doubt of a familial relationship, then the individual can appeal and file a request for genetic testing.

"We've had two cases where we've seen multiple exclusions with standard forensic STRs," Dr. Ballard stated. "Normally, labs will determine that two to

three exclusions between a parent and a child means that there is no parental relationship. When we ran these cases through the MiSeqFGx System, we were able to prove that they were related as parent and child, thanks to the breadth of markers within the ForenSeq DNA Signature Prep Kit. Without the MiSeqFGx System, proving that would have been very complex, if not impossible." The ability of the MiSeqFGx System to discern relatedness could also

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DNA PHENOTYPING SHOWS RESULTS

Continued from page 41

help in resolving paternity and missing persons' cases and assist in disaster victim identification.

Parabon® NanoLabs Snapshot™

Parabon Snapshot DNA Phenotyping is used when crime scene DNA does not match any others found in

databases (or known suspects), and to generate additional information about human remains. The original funding for Parabon Snapshot came from the Department of Defense. Parabon is involved in a separate project with the Armed Forces DNA Identification Laboratory to identify unknown remains using new methods for inferring distant kinship.

The traits which can be determined are those externally visible and those which are highly heritable, such as eye color, hair color, skin color, facial shape, and freckling. Ancestry is determined on two scales, first by region on a global scale, including East Asian, Oceanian, Native American, African, Middle Eastern, European and Central Asian. Ancestors might be from different regions and people with characteristics of two or more regions are called admixtures.

People from intermediate regions will appear as a mixture between two closely related regions (and the subsequent regional ancestry analysis will localize them to a specific region), whereas truly admixed individuals will appear as a mixture between more distant regions and the regional ancestry analysis will still show them as coming from multiple regions.

Because Snapshot cannot determine age or environmental factors, composites are made based on a subject who is 25 years old and of normal weight. Snapshot can also do an age progression based on normal patterns for someone of that ancestry to present a composite of how the subject might appear at a particular age range.

Dr. Ellen McRae Greytak, Parabon NanoLabs's Director of Bioinformatics, stated that the composite is not intended to be an individual ID, but a portrayal of the summary of the detailed report which accompanies it. The information is presented with confidence levels for each trait. The information can help generate leads, prioritize suspects and contacts and exclude possible suspects.

Only highly heritable traits can be predicted in varying percentages. Eye color is nearly 100% heritable, while freckling is harder to predict because of the environmental factor of sunlight exposure. Percentages are presented as confidence statements. Eye colors are blue, green, hazel, brown, and black, but eyes which are dark blue or green are hard to distinguish and the confidence level may be lower.

The data may allow law enforcement to exclude most of the suspect pool. Greytak stated that, "We exclude phenotypes which are less than ten percent consistent with the prediction, so exclusions can be at anywhere from



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90% to 99.99% confidence on excluded phenotypes. We explain it as 'it's the same as an eyewitness statement, factual information, such as a white subject with blue eyes.' It's a genetic witness."

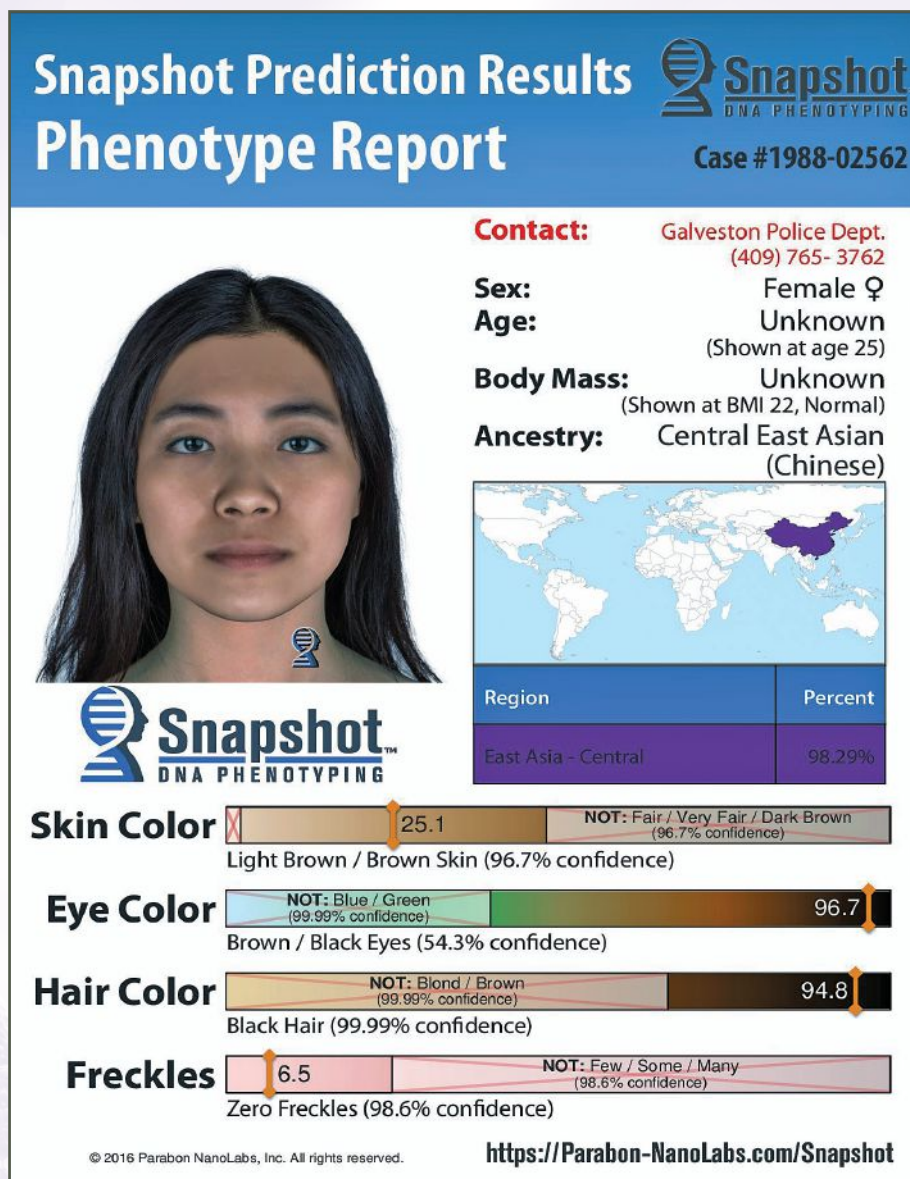
The Snapshot procedure uses SNPs which are changes in the DNA sequence, rather than using STR for DNA analysis as is commonly used for CODIS and other databases. Each person has millions of SNPs, compared to the 13-27 used in STR, providing much more data to work from. Greytak stated that "STR treats DNA as a fingerprint and Snapshot treats it as a blueprint, all the information to actually build that person. We are using that to infer that person's physical appearance."

Greytak reports that they deal with decades old cold cases with no leads. Snapshot can provide detectives with information which might allow them to exclude 95% of possible suspects.

Snapshot has been successfully utilized, with several arrests, and at least one conviction in a case in which they had participated by providing a composite. Extensive research in developing Snapshot included collecting reference samples and finding each trait's genetic markers, using already published research and developing markers of their own. Blind evaluations were done in which they prepared composites and then compared them to the actual appearance of the subjects, successfully providing such comparisons to the media, police departments and other groups, such as the University of North Texas.

Departments typically contact Parabon and will need to provide the quality of the DNA, how it has been stored, if it is a mixture, and if there is enough DNA to test. If the DNA is appropriate to test, it may sent be to Parabon at a cost of \$3600 per sample.

Galveston (TX) Major Crimes Unit Detective Derek Gaspard stated that his department used Snapshot on the decapitated remains of a female found in 1988, never identified, but believed to be a white female. Snapshot provided eye-opening results in July 2016 when their unidentified victim was found to be an Asian female, geographically from Central East Asia (China).



The Galveston PD used Snapshot™ with eye-opening results in July of 2016 when their unidentified victim was found to be an Asian female, geographically from Central East Asia (China).

This was their first use of Snapshot, but they plan to use it to narrow a suspect pool on another case. Gaspard said of the new DNA method, "It is wonderful, especially for our case where we don't know either the identity of the victim or her killer."

Aurora (CO) Police Cold Case Squad Detective Stephen Conner used Snapshot on a case involving the triple murders of a family. Their focus on a white male was confirmed and the field of suspects was narrowed down.

Conner spoke to how he uses Snapshot, "The usefulness of Snapshot is as an investigative tool. Since

I have no idea of what a suspect may look like in any given case, Snapshot can assist in providing that information." The composite is what a suspect may look like and other investigative factors are applied, such as whether the suspect was in Colorado at that time. "This technology is a tool, not a magic bullet." **P&SN**

Kathy Marks is a retired child abuse investigator with 30 years of experience; a writer and researcher; and the author of numerous law enforcement articles. She may be contacted at kathymarks53@aol.com.

BRASS AND BLOOD:

Fighting and Fixing with Advanced Field Survival Procedures

This jointly taught combat casualty course stresses that officers should possess the ability to press home the fight and render aggressive patient care, not only to themselves, but also to others who may have been injured.

**Jim Weiss, P.J. Ryan
and Mickey Davis**



Law Enforcement (LE) trainers previously taught that, if a police officer's hand or arm was injured in a gunfight, he/she was to put that arm/hand behind his/her back and continue the combat course with the weak or support hand. The premise was that, even though an officer may be shot or injured, he/she should finish the fight, take out the bad guy and deal with the injury afterward.

Enter Hugh Coffee of Ditch Medicine and Chase Jenkins of Talon Defense. Their tactical combat and casualty care methodologies, modeled after the accepted protocols of Care Under Fire and Tactical Field Care, involve medical care and doing what is needed to stay in the fight – training which goes beyond the norm commonly offered in combat casualty care courses.

This training concept may seem complex on paper, yet it's simple in execution. They incorporate proven lifesaving shooting skills instruction, along with emergency medical intervention. These methodologies are based upon concepts proven in the combat zones of both Iraq and Afghanistan.

EXTERNAL BLEEDING

Every street police officer should know how to deal with the three types of external bleeding. *Capillary bleeding* occurs when a minor scrape or cut opens capillaries; it is almost always slow bleeding and small in quantity. *Venous bleeding* involves deep cuts capable of opening veins, typically resulting in a steady, but relatively slow, flow of dark red blood. Usually, the best way to stop this is to put direct pressure on the wound. *Arterial bleeding* is less common and the most dangerous, involving a large volume of bright red blood which comes in spurts that correspond with each beat of the heart. Treatment of arterial bleeding is situational dependent. The current tactical situation would dictate which intervention is most appropriate – tourniquet placement, stopgap pressure, direct pressure, or some combination of these interventions. If immediate intervention is not directly carried out, a severe arterial wound can cause death within a few minutes.

The type of wounds addressed in Brass and Blood training are those

caused by gunshots with complications, including external and internal bleeding and damage to underlying structures.

Training began with a safety briefing, range rules and team assignments. As it progressed, so did the stress levels of the trainees. The dynamic mechanics of the progressing scenarios, as in real-life situations, did not involve calling to the bad guy for time-out, but rather it continued with the officers addressing both their wound(s) and the bad guy(s).

The Brass and Blood four day training course monitored for this article was conducted in partnership with the Pinellas County, Florida, Sheriff's Office. The students were separated into two equal groups. Talon Defense taught the firearms segment and Ditch Medicine taught the medical care training portion. Both parts of this training eventually dovetailed into the last day of the class and were a real eye-opener for most of the law enforcement students.

TALON DEFENSE, LLC (talondense.us.com)

Along with having the officers shoot from their strong side, Talon Defense also incorporated drills which had them drawing their handguns and shooting, as well as reloading, all with their support (weak)



This training aid (tennis ball) helps to emphasize that, if your hand sustains an injury, you can still use your arm to get as close to a two-handed grip as possible.


hand. This was to instill in them that they could accomplish this with minimal adjustments to their normal shooting stance and maintain safety (muzzle discipline). Some officers found it easier to draw their handguns if they grabbed their duty belt and shifted their holster closer to the center of their body. Others had duty issued leg holsters which posed various other problems. Talon Defense addressed

these to help these officers overcome any challenges.

After conducting both strong side and support (weak) side shooting drills, training progressed to the uncompromising tennis balls. In this drill, officers held the tennis ball in their support hand and executed a basic two-handed shooting stance where both hands meet at arm's length in front of the individual. The chal-

“Forty percent of the time, there will be more than one suspect.”

~Dave Grossi, Calibre Press Seminar



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This officer has placed a tourniquet on a simulated injury and then continued to engage various threats. Fighting through the injury and ending the encounter is a necessity.

lenge, according to Talon Defense, was to isolate the trigger finger with repeated practice and let their subconscious take over.

Course students were instructed to consciously think about how hard they were gripping the pistol because gripping it tightly would make it harder to isolate the trigger. Instead, they should apply trigger pressure similar to pressing a button in an elevator. With this method of shooting, the police students held the gun like it was a beer can, not squeezing it to crush it, but rather holding it just securely enough not to spill beer should someone bump into them.

The officers proceeded to take several shots to get accustomed to this shooting style. The rationale for the tennis ball in the support hand was to simulate an injured, gunshot wounded hand, so there could not be a proper, two-handed grip. It also helped the student learn to use his support hand as best as possible to get shots on target in a safe and efficient manner.

It was emphasized that, after neutralizing the bad guy and making sure he was down and out of the fight, the officer should keep the handgun's muzzle pointed toward him. This was to make certain that, should the bad guy get back into the fight, the firearm was already on target and all that was needed was to press the trigger a few more times to stop any further threat.

Next, Talon Defense had the officers place a tennis ball in the crux of an elbow, with their arm bent upwards and their hands almost touching their shoulders. Their arms were then duct taped back in a stress position giving them very limited or, in most instances, no use of their support hand/arm. With one entire arm effectively immobilized, they then shot a course of fire similar to the one they shot at the start of their day.

The instructor was available to explain how to work through the handgun/long gun drills and also demonstrated how to load a long gun (most students had an AR/M4 variant) while in this simulated "injured" condition.

One of the more interesting elements to note was that officers were instructed to target on the thoracic and cranial ocular cavity of the body. The *cranial ocular cavity* is the area located by making an imaginary triangle between both eyes to the tip of the nose. It's all soft tissue, making bullet penetration much easier should that target present itself. The *thoracic cavity* can be considered to be the center of the upper chest area located from just above the suprasternal notch to just below the base of the throat. This is also referred to as the *jugular notch*, the visible indentation between the neck and the collarbone. A direct hit there is likely to penetrate the C7-T1 vertebrae, stopping most threats quickly.

DITCH MEDICINE (ditchmedicine.com)

Ditch Medicine's and Talon Defense's goal was to create a safe and proficient tactical thinker who would be safe and capable on the street and not to simply react to any given situation.

By design, all of the drills were set up to include problem-solving, stress-inducing scenarios, in order to make the

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BRASS AND BLOOD

Continued from page 46



The AAJT™ is a device which utilizes a belt, windlass and pneumatic pressure to compress the indicated regions of the body, greatly increasing the stability of the compression.

officers realize that they can, and will, be victorious in a firefight, even if they are injured. The training environment was also structured with both known and unknown threats. Sometimes, for example, the area was wet, muddy and littered with debris. Individuals were forced to work from unorthodox positions while under duress in

adverse conditions, mirroring what they might face on the street.

In an injury where arterial bleeding is involved, a properly applied tourniquet has been proven to save a great many lives. With this in mind, training exercises were begun, with students learning self-aid application of tourniquets and then transition-

ing to buddy aid.

In the drill, "Trauma Shuttle," officers were taught to apply tourniquets and bandages to themselves while shuttling back and forth at 15 yard lengths. At the completion of the training evolution, the officer would have put in place two bandages and two tourniquets. This was accompanied by clear and loud verbalization of the proper steps involved.

Officers also practiced several proven methods of stopping severe bleeding. These included cutting one inch wide by ten inch long strips of cloth from a T-shirt and inserting them directly into a wound by pushing them in with their fingers to form a "clot" of sorts until further medical attention could be sought.

They were also taught "March to X." This exercise involves sending pairs of law enforcement officers into a hot, down-range situation and immediately triaging, treating and retrieving an injured individual who was bleeding out – while returning fire against the bad guy(s).

The scenario which rounded off the training had individual officers working in close proximity to other team members. During this, the individual had to employ safe tactics with both primary and sec-

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This is one of the dry run drills covering proper grip which becomes even more important when you, the injured officer, are forced to use only one hand.

ondary weapons, direct his team (at certain times), take orders from others, use discrimination in determining the relevant threat, and apply correct medical procedures when and where appropriate.

Among the current medical tools demonstrated and used were Compression Works' Abdominal Aortic & Junctional Tourniquet (AAJT™) and North American Rescue's Junctional Emergency Treatment Tool™ (JETT®).

The AAJT addresses noncompressible hemorrhage in the leg, groin, pelvis, armpit, and upper extremities which is not treatable by a tourniquet. It is stable, easy to apply and completely stops the loss of blood to treat a class of preventable deaths not previously treatable.

According to North American Rescue, the JETT includes two pressure devices in a single tool, allowing for simultaneous blockage of blood flow to both lower limbs (bilateral) with an easy to apply, preassembled, ready to use belt solution. It is used for high extremity wounds in the thigh/groin region where tourniquets cannot be placed or are less effective, stopping the bleeding and potentially saving the life of a casualty which would otherwise bleed out in minutes. Penetrating trauma, blast injuries and amputation are examples of injuries which may require treatment with this device.

CULMINATION

The final scenario was well choreographed with multiple disciplines included to challenge students. Teams had to engage the appropriate threats to find their way to, and rescue, a simulated downed individual.

Students were also required to properly assess and treat the most relevant injuries. Additionally, as threats were engaged, the wounded individual had to be relocated. The teams going through these scenarios had to continually reassess their patient care while maintaining situational aware-

ness to threats, as well as treat injuries at the appropriate times. Training took place under blue skies and/or darkness, white light or no light, and there were time limits. If the team didn't finish during the prescribed time frame, the scenario continued until they reached the designated location.

The course scenarios were in no way easy, but the Brass and Blood course and scenario training were designed to help students become both thinkers as well as fighters; responders and not just reactors. Reality-based training such as this demonstrates to officers that they can take the necessary steps to rescue themselves or others under the most stressful situations.

The entire class pushed their fellow students to succeed. When it was over, all law enforcement students were safer and more effective than when they started.

P&SN

Jim Weiss is a retired lieutenant from the Brook Park, Ohio, Police Department and a freelance writer.

P.J. Ryan is a retired law enforcement officer from the Southeast. During his career, he was a state certified law enforcement firearms instructor and an agency armorer. He was also a member of his agency's Emergency Response Team, a



These two officers have "restricting injuries" and are working to bring two guns into the fight. Their goals are to complete the drill, accurately engaging threats and winning, despite their injuries. Muzzle awareness and safety are also critical.

Certified Edged Weapon Awareness and Spontaneous Knife Defense Instructor and a Certified Israeli Instinctive Shooting Instructor. He is currently involved in firearms development, training and tactics.

Mickey Davis is a California-based writer and author.

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Anatomy of a RANSOMWARE Attack

The disruption to individual and departmental computer systems via ransomware is presenting new challenges to law enforcement agencies throughout the country.

Dr. Stephenie Slahor

A recent NBC news report disclosed how Eastern European hackers have been exposing law enforcement agencies nationwide to “ransomware” virus attacks – seizing control of various systems and deleting numerous files and/or denying access to records and other information. According to this report, police departments in seven states have experienced these types of attacks over the past three years. Explaining to the ASIS International Annual Meeting how ransomware operates was Barry Shteiman, Director of Threat Research for Exabeam and author of the HULK DDoS attack tool.

What Is Ransomware?

Ransomware is computer malware which installs covertly on a victim’s device and mounts a persistent cryptographic attack to encrypt user files on infected machines or prevent access to data. The goal is to demand ransom to reverse the attack, said Shteiman. Malware can “evade,” avoiding detection, as it communicates with a C2 network. It receives commands while persisting and can exfiltrate data and then sell that data to a third-party buyer. Ransomware shows itself once it has completed its attack and communicates once, if at all. It is packed preconfigured and encrypted locally, then sells the data back to the victim of the virus.

How It Advances

Shteiman explained that the “chain” of ransomware goes through steps: the campaign, infection, staging, scan, encryption, and payday.

In the “campaign,” the user is usually tricked into downloading and activating a malicious dropper or payload via an E-mail, watering hole attack, exploit kit, or “drive-by.” The E-mail is usually simple: a message which informs the user that



a particular document, invoice, package delivery information, etc. is within the message. “These things look real,” said Shteiman, but, if opened, that downloads a random dropper – hard coded.

The “infection” dropper phones home to download an .exe or a camouflaged executable, then copies or stages the malicious executable to a local. The dropper script is then terminated and potentially dissolved and the malicious payload is then executed.

“Staging” occurs when the ransomware runs on the computer, sometimes moving to a new folder, then dissolving, checking for local configuration and registry keys, such as proxy settings, user privileges, accessibility, or other meaningful information. Then, it does “persistence steps,” such as running at boot, running when in recovery mode, disabling the recovery model, and so on. Various commands are issued to delete shadow copies of the files and the ransomware

might then communicate at this stage to get the public key negotiated or to learn where the user or system comes from and whether they are applicable targets.

“Scan” occurs when the ransomware enumerates the local and network accessible systems, looking for a list of file extensions. It scans and maps these locations. Some variations also check for write/delete writes at this stage. This is a stage in which the ransomware could spread to other computers. (Scan speed is affected by network speed and the amount of data and servers, Shteiman added.)

“Encryption” occurs in all discovered files, both local and mapped. The original file is then deleted. For every location where files are found and encrypted, auto-generated ransom notes are created in multiple formats, such as .html, .txt and scripts. Encryption is local to the infected machine and network infections travel to the local machine and back. Speed de-

depends on volume.

"Payday" comes after encryption, with a ransom note created on the desktop and displayed to the user, then the ransomware terminates and usually deletes itself.

Fighting Back

Shteiman said the varying time when each of these steps occurs may give an opportunity to disable the ransomware. Detection opportunities come between infection and payday. Infection and staging take seconds, but scanning and encryption take minutes to hours, giving a possible opportunity to stop the spread of the infection.

Graphing the connections stitches together user activities which cross accounts, devices, IPs, and networks. Then, a model can be built for anomalies, such as whether it is a new process, mass deletion, new extensions, abnormal or suspicious LAN/WAN location access, registry edits, or deletion or scan on multiple assets.

For further information, log on to www.exabeam.com/library for the Threat Research Report, *The Anatomy of a Ransomware Attack*, a white paper which covers the business models used by ransomware operators, the attack chain, and

Ransomware Doesn't Mean Game Over

According to Adam Kujawa, Head of Malware Intelligence, ransomware works well because undetected variants are developed and deployed quickly and the program has to execute only once to be effective. It can completely lock down a system and encrypt important files. He explained that ransomware uses two primary methods: the "drive-by" which infects the system "behind the scenes" without user interaction; and "phishing" which tricks the user into opening an attachment which will launch a scripting file, download the malware and infect the system, all while evading detection. Kujawa added that, sometimes, it is malware which installs other malware.

Options to fight ransomware include running antivirus/antimalware; using backups for restoration; deleting encrypted files from the backup (assuming the history is enabled); analyzing for the root cause of the infection; and/or finding a decryptor through the Google™ search engine by Googling the name of the ransomware. Kujawa also recommended NoMoreRansom.org which lists decryptors.

Although some users will choose to pay the ransom, Kujawa said such action not only costs money, but encourages more ransomware and the user may not actually get the files back anyway, or the system may be reinfected later. He said, "I do not recommend paying the ransom – ever!"

detection and disruption of ransomware in the corporate environment. Being prepared and taking precautions about ransomware can save time and money and prevent future incidents. **P&SN**

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Circle 4063 for More Information

NEW TECHNOLOGY



New Touch Screen Display

Havis Inc. has introduced a **new lightweight touch screen display (TSD-101)** which mounts directly to a vehicle's dash panel. The new space-saving display functions as an external monitor, providing the option of docking and mounting computing devices elsewhere like the trunk to maximize space and create a comfortable work environment. It features an anti-glare screen and a red monochrome night mode designed to minimize eyestrain; a screen size of 11.6" length x 8.5" width x 1.4" depth; a high resolution of 1366 x 768 pixels; and a total weight of 2.2 lbs. A friction-based hinge on the new mount series creates a rapid tilt swivel and rotation motion for a range of left, right, portrait to landscape and upward adjustments, allowing users to lift the touch screen display.

Circle 4064 for More Information



Pioneer Summit™ Series

Designed to deliver maximum light intensity, the low-profile **Pioneer Summit Series** is available in multiple spot, flood, and scene optic combinations. Whelen's all-new patent-pending Helios™ Optics increase clarity with 100% silicone internal optics. The **Pioneer Summit Series** features optional integrated warning and ICC marker lights for optimal illumination and visibility.

Circle 4065 for More Information

New Backpack Duty Bag – the Silent Partner™

Made with feedback from law enforcement professionals, and designed for their everyday needs, Blauer's **Silent Partner** has innovative features with a tough 840D ballistic nylon exterior.

The new design includes interior touches such as headrest straps which turn the flap of the backpack into a seatback organizer, along with additional storage. The lower interior part of the bag, which sits flat on the seat (open for easy access), has an insulated food and beverage space, adjustable VELCRO® dividers, and is big enough to store a loaded duty belt.

A protective, vacuum molded armor plate storage pocket is included, along with a padded laptop/tablet pocket with easy access; adaptive closure side bungee pockets which allow the storage of larger items; and a slash pass-through on the bottom to accommodate a seat belt to secure the bag to the passenger seat of a vehicle.



Circle 4066 for More Information



New Plate Carrier

Available from Adorama, 5.11 Tactical's new line of **TacTec™ Plate Carriers** offers superior penetration resistance without the weight or bulkiness of a traditional flak jacket. The **TacTec Plate Carrier** features a skeletonized waistband and yoke shoulder pads for a secure and comfortable fit.

Circle 4067 for More Information

New Expanded Line of Pistols

Smith & Wesson® Corp. has expanded its line of Self Defense pistols to include Flat Dark Earth and Gray frame finishes. The Smith & Wesson SD Series, chambered in 9mm and .40 S&W, offers a variety of features, including a smooth, consistent trigger pull and a lightweight polymer frame.



The **SD9™** and **SD40™** pistols feature a reliable, durable, striker-fired pistol which includes a solid, molded polymer frame, as well as an ergonomic grip. The Self Defense pistol series comes standard with a white dot front sight and a white two dot rear sight, as well as an accessory rail for optional lights, lasers and rail mounted accessories. Both the Flat Dark Earth and Gray frame finish SD Series pistols feature a stainless steel slide and barrel with a durable Armornite™ finish, providing increased corrosion resistance.

The **SD9** pistol is available with a 16+1 round capacity, while the **SD40** pistol is standard with a 14+1 magazine capacity. Equipped with a four inch barrel and an overall length of 7.2", both models are well-suited for personal protection or home defense.

Circle 4068 for More Information

New Storage Systems

Jotto Desk is excited to offer **Storage Systems for the Ford PI Utility** which keep your weapons, gear and emergency supplies organized and quickly accessible.

Constructed of 12-gauge aluminum and made in the USA, these **systems** provide both storage options and security, while allowing easy access to your spare tire. Eight different configurations are divided into two categories – a Weapon Storage Cabinet and a Dual Vertical or Double Dual Vertical Drawer design.

The Weapon Storage Cabinet configurations offer two shelves which are approximately 37" deep. The Vertical Drawer configurations offer two drawers with slides rated at 200 lbs. total capacity and feature full extension for easy access. The Horizontal Drawer configurations feature 1.5" over travel on the slides and are also rated at 200 lbs. It includes a divider and is perfect for the smaller items which are frequently needed. A Package Tray is also available to secure odds and ends.



Circle 4069 for More Information

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P&SN Police and Security News
Serving Law Enforcement & Homeland Security

PUBLISHER: Al Menear
ASSOCIATE PUBLISHER: Toni Saturno
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TECHNOLOGY EDITOR: Bill Siuru
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PO Box 1185

Quakertown, PA 18951-0079

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Police and Security News is published bimonthly by Performance Publishing, LLC, PO Box 1185, Quakertown, PA 18951-0079.

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Standard Rate Postage Paid at Bellmawr, NJ (permit #1239).

POSTMASTER: Please send form #3579 to Performance Publishing, LLC, PO Box 1185, Quakertown, PA 18951-0079.

All subscriptions and editorial should be directed to: Performance Publishing, LLC, PO Box 1185, Quakertown, PA 18951-0079.

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BUSTED!

James L. McClinton, Ph.D

I don't want to know what he did in the flute section... In Fort Worth, Texas, police uploaded security camera footage of a music store thief who walked out of the shop with an entire guitar stuffed down his pants. Officers uploaded a video to YouTube showing the man walking into the Guitar Center store and going to a corner where he shoved a \$1,700 Tobacco Sunburst Fender guitar down his pants and then he hid the instrument with his puffy vest. Police said they were shocked by the footage and are asking members of the public to come forward if they recognize the man from the footage. (*"You must be mistaken. I already had this guitar in my pants when I came in."*)

Isn't the drive-through private property and, therefore, not subject to couch laws? Canadian Police said two men were arrested after taking an intoxicated ride through a McDonald's® drive-through in New Brunswick while riding on a couch towed by an ATV. The Miramichi Police Department said an officer traveling on KG Highway spotted the entourage with two men riding atop the piece of furniture. The ATV driver fled on the vehicle, leaving the couch and its occupants behind. The intoxicated couch riders, ages 28 and 39, were arrested. A security camera filmed the ATV towing the couch and the passengers on a Miramichi street moments before the police officer spotted the scene at the drive-through. (*A couple of genuine couch potatoes.*)

Fraud is the first thing which comes to my mind... A pregnant woman convinced a reporter from a TV station in Jacksonville, Florida, that the "positive" urine tests she was advertising on Craigslist were accurate and that she was putting herself through school by supplying them (making about \$200 a day). The seller claimed that "many" pregnant women market their urine for tests – even though the main use of the test seems to be "negotiation" with boyfriends or husbands. (*It sounds like it's kind of an extortion starter kit.*)

REAL STORIES OF GENUINE ABSURDITY

Odds are this guy was just trying to pass the buck...

In Massachusetts, a man who contested a speeding ticket in court gave the judge a unique explanation – the officer's radar gun may have picked up a deer. The Haverhill man was clocked going 40 mph in a 30 mph zone in West Newbury and was given a \$105 ticket. He appealed in court, asking the officer if he was 100% sure his radar gun had captured his speed or the speed of a deer which could have been in the vicinity. When confronted by the skeptical judge, the defendant replied that anything was possible. The fine was upheld. Incidentally, deer can run approximately 30 mph. (*Judge: Stop bucking the system and cough up the doe! Defendant: Your Honor, how will I get out of this rut?*)



"Sort of an E-ZPass for crooks"...

A 27-year-old man was arrested in Apopka, Florida, with a modified license plate cover which let him avoid highway tolls. His scheme included a remote control on his keychain which he used to raise and lower his license plate cloaking device. The device let him avoid identification by cameras as he passed through turnpike checkpoints without paying the tolls. But, he got greedy – and lazy – when he neglected to check his rearview mirror before lowering the cover and failed to notice that right behind him was a Florida Highway Patrol car. (*Wouldn't it be easier to just drive a pickup with the tailgate down?*)

Great deterrent – now add some OC to the mix...

In Tacoma, Washington, a man grew tired of thieves snatching packages from his porch and decided to take action. He took a box from a previous order; rigged it with a plate, a string and a firing pin; and, now, if you try to take it off the porch, you will be taught the error of your ways by a 12-gauge shotgun blast. It's only a blank shell, but it's enough to send thieves fleeing. He says one thief even left his cell phone on the porch. (*It's just a suggestion, but maybe he could include some garbage and a few other waste products to the box, as well.*)

I don't think Santa will have any trouble figuring out who's been naughty or nice!...

In Arkansas, a mother thought her Amazon account had been hacked until her six-year-old admitted to using the sleeping woman's thumbprint to buy \$250 worth of Pokémon™. The girl used her mother's thumbprint to unlock her iPhone® while she was taking a nap and opened the device's Amazon app. She thought she had been hacked when she received confirmation E-mails for \$250 worth of Pokémon merchandise – her daughter's favorite – but the six-year-old soon confessed to the shopping spree. "No, Mommy, I was shopping." Mom says her daughter assured her, "But, don't worry – everything I ordered is coming straight to the house." (*This young mother's ordeal is only just beginning.*)

This is one "red light district" motorists need to avoid...

California's 2015 law aimed at improving the fairness of its red light cameras apparently isn't being observed in Fremont (pop. 214,000, just north of San Jose). Last year, the city reportedly earned an additional \$190,000 more each month by shortening the "yellow" phase by two-thirds of a second at just two intersections. Tickets went up 445% at one and 883% at the other. (*Do you get the feeling that someone is missing the point here?*) **P&SN**



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