

# CANADIAN TACTICAL OFFICER'S ASSOCIATION NEWSLETTER

## Switching On to Terrorism



A few hours after the London attack, Adam Djaziri, a Muslim of Tunisian origin, deliberately crashed his car into a police convoy on the Champs Elysées boulevard. The car was full of guns and explosives. It did in fact explode after the impact, killing Djaziri but no-one else.

Oussama Zariouh, a Moroccan national resident in Belgium, tried to blow himself and many other people up at the main railroad station. The attempt failed; his bomb only caught fire. Distraught at his failure, Zariouh ran back and forth on the station platform, shouted "Allahu akbar!" at a soldier, who thereupon shot him dead. Zariouh's bomb did later explode, but no-one was hurt.

Amor Ftouhi, a Canadian citizen born in Tunisia, stabbed a member of the Flint airport police force while shouting "Allahu akbar!" Ftouhi gave his motive as hatred of the U.S.A. He is in custody; the officer is recovering in hospital.

Citizens in North America are not trained observers, and are overly complacent when it comes to terrorism. We must understand that

the police or any authority are not a deterrent to crime, and are not responsible for prevention of it. Citizens need to be an important part of the security shield. Complacency is the biggest challenge we face in protecting our society from the likes of such attacks.

Consider this quote from Malcolm Nance, from his book, "The Terrorist Recognition Handbook": "**Learn the terrorist attack pre-incident indicators (TAPI) of a terrorist operation in the works. No matter how clever terrorists may be, they're not ghosts. Terrorists and their support personnel must perform certain behaviors in order to carry out their plans. They have specific roles and duties, many of which are observable to the trained eye**".

As in New York on 9/11, Oklahoma City, the Oslo bombing (Breivik), Sandy Hook, and the Virginia Tech shootings, there were sufficient signals that if acted on could have prevented these tragic events.

On the plus side, street level observers were able to prevent the Times Square bomb from massacring a crowd, and

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### What to expect

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the so called Underwear Bomber and Shoe bomber were stopped by citizens who acted. The best defense is a good offense.

Western societies have an advantage, they have virtually unlimited financial resources and intelligence gathering capability. But they are working against an enemy whose campaign of choice requires little training, knowledge, skill, or number of combatants, yet has great political and social effect.

While we can never prevent all acts of terrorism, we can catch many of them at the planning stage, days, weeks, or months before the act occurs. Terrorist groups often telegraph their intentions well before the event. Be alert for the signs, and never hesitate to report what looks or feels wrong. We act routinely on our instincts while at work or dealing with family, and it is a matter of training to listen to and expand those instincts beyond what you see and deal with daily.

Stay alert, and stay safe, especially at public events. And listen to your instincts, because they are trying to keep you alive.

## I.E.D. THREAT ASSESSMENT: HOW TO STAY ALIVE IN BOMB - RIDDEN WORLD

(Excerpted from "Terrorist Explosive Sourcebook: Countering Terrorist use of Improvised Explosive Devices", by Stephen Turner. Many answers to recent problems are often found in older books, and this book is excellent.)

**The use of I.E.D.'s allows** a terrorist or extremist group to injure, kill, or cause damage with little risk of detection or capture. The publicity generated is disproportionate to the effort involved and often to the size of the group in question.

Justification for attacks on soft targets can be expressed as, "When hungry for publicity, notoriety, or revenge, why attack a hard target (with the attendant high risk of failure, capture, or death) when there are plenty of soft or undefended targets around, that can be attacked with relative impunity?"

### The Very First Question To Ask Is "Am I A Target?"



The answer is likely "Yes." Given the set of circumstances, someone, somewhere will contemplate killing or kidnapping you. This is not necessarily because you are you, but because you have been perceived by the would-be perpetrator as being supportive of some religious, political, philosophical, or ideological movement or organization to which he is opposed. The odds of you actually becoming a victim, however, will vary enormously according to where exactly in the world you happen to be and the amount of

attention you draw to yourself (or have drawn to you) as compared to other potential targets of a similar value.

In any threat assessment program it is important to remember that it is not how you see yourself, but how the likely perpetrator(s) see you. For example, you might consider the claim that you are supportive of American foreign policy to be ridiculous, but by traveling overseas on an American airline you are in fact indicating such support to many extremist groups.

Similarly, although you might actually think that the "Winbani" government should "give back" the occupied territories to the "Remolinians" and grant them an independent homeland, by using the services of a "Winbani" owned financial group you are sending out exactly the opposite message. Indeed, in the eyes of many terrorist group operatives, simply drinking at a bar that is also used by off-duty military personnel is enough of a sign of your support for the soldiers (and therefore the policies of the regime that employs them) to justify your death.

In the case of kidnap for ransom, remember that "rich" is a subjective term. Besides, it will not usually be your apparent personal worth that attracts such an attack but the funds or concessions likely to be forthcoming from your employer or government in order to secure your safe return.

### Threat Assessment Questions

To assess the threat level attendant to a specific situation many questions will need to be asked. Typical, sample questions include:

- Have other individuals in my position been victims of terrorist attacks recently? If so, what form did the attacks take, where and when were they perpetrated, and was there any prior warning or

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threat?

- Is the company I work for one of a group that has been attacked previously by virtue of its involvement with some controversial product, resource, or technique?
- Does that provocative involvement still exist?
- What form did the attack(s) take? How and when were they perpetrated? Was a warning or threat issued prior to the attack? Does the date of my impending business trip abroad coincide with any terrorist-significant anniversary? Has the airline I intend to use been attacked before? How good are the security forces in the country in question? What is the attitude of the government in that country toward foreign nationals?
- If a firebomb were planted in one of our stores, how long could it remain undiscovered?
- Do we have adequate fire-fighting equipment on hand in the store to control a fire that broke out during opening hours?

And so on. During the assessment, if any questions set the alarm bells ringing, then refine the exercise by determining what options are available by way of a countermeasure. Implement those that are the most practicable for your situation.

### The Principles Of Booby Trapping

The majority of terrorist IEDs can be classified as booby traps. In other words, they are designed to actuate when the target undertakes some apparently harmless action such as lifting a briefcase or opening a car door. The psychology of booby-trapping is worthy of consideration. Several basic principles are always used by successful booby trappers. They

are:

**Surroundings:** The surroundings will appear undisturbed, and no clues (such as bits of wire, wrappers from explosives, signs of forced entry, etc.) will be left behind. Mechanisms will be concealed, camouflaged, or designed so as to resemble some innocent item.

**Obstacles:** All man-made obstacles are ideal from the viewpoint of the booby trapper because sooner or later they will have to be removed. In the interim they will be bypassed and so any obvious bypass routes will be trapped also.

**Lures (Bait):** It is not just cats that curiosity kills. Traps will be set in obvious locations to trick the inquisitive, attached to souvenirs or items of value, and disguised as apparently mislaid or abandoned items to catch the unwary.

**Attraction:** An interesting, useful, or much-frequented area or location (e.g., a shady spot, a natural washing/bathing pool, a public display area, a bandstand, or a place of cover likely to be adopted by security force patrol members, etc.) will often be trapped.

**Bluff and Double Bluff:** Dummy traps will be used to induce carelessness in finders. Obvious trap mechanisms will be used to conceal more dangerous ones. Having deployed one real device, hoax warnings will often be issued about other devices. This combination of real devices and hoaxes causes as many problems for the security forces as would the continual deployment of real devices.

**Variety:** Many different types of trap will be used in the same locality to cause confusion, delay incident and emergency response teams, and delay or negate the development of a standard neutralization technique (which would speed up subsequent trap neutralization operations).

### How Are Booby Traps Detected?

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The vast majority of booby traps can be detected only by the extremely careful search of all suspicious areas and objects. All personnel likely to encounter such devices must be constantly aware of the threat when occupying contested areas, undertaking searches, responding to calls for assistance, returning to parked vehicles, performing routine patrols, etc. "Trap sense" will come with practice. Constant vigilance is extremely important.

### What Specific Locations And Objects Should Be Suspected?

Given an appropriate context, the following are all potential trap locations and objects:

1. Abandoned (or apparently lost) items of souvenir and/or financial or military value to the finder, and apparently lost items which can be relied upon to provoke their recovery or removal with a view to determining the legitimate owner.
2. Items and obstacles that must be moved before a unit or patrol or other target can enter an area or pass some point. This includes natural and manmade objects, vehicles, and so on.
3. Obvious access points such as building entrances, gates, tracks, fences, windows, etc.
4. Installations. This includes any installation (building, bunker, storage facility, office, production plant, etc.) of strategic, tactical, political, or psychological value to the target authority. Also any installation that is likely to be searched by target personnel as a matter of course or because of a provocative phone call or tip-off. Objects within such locations should also be suspected.
5. Open country, locations of natural cover,

and areas of scrub likely to be used for camouflage, shady areas, obvious landmarks, and known patrol routes. Also consider the most obvious alternatives to locations in the above categories (which may be trapped in order to catch the more wary).

6. Lines of communication: roads, railway lines, culverts, bridges, embankments, road cuts, junctions, checkpoints, telephone and radio links, the postal service, known/likely security force LZs, DZs, FUPs, RVs.
7. Events/Gatherings: shows, displays, political meetings, apparent vehicle accidents, training areas, etc.
8. The personal property and belongings (including vehicles) of specific target individuals.

### What Are The Warning Signs To Look For?

Anything that is out of the ordinary, unusual, or out of place may indicate a booby trap or a nearby command-fired device. As with all security related matters, context is important. Bearing this in mind (and remembering also that more often than not no clues will be evident), some examples are:

- signs of digging or repair work
- abandoned items that have an obvious cash or souvenir value
- disturbed ground and minor ground subsidence (especially after rain)
- spoil and debris from digging
- unusual marks on walls, footpaths, roads, roadside lamps, etc. (used as a warning indicator to friendly forces and sympathizers or as a timing/aiming mark for a command-fired device)
- unnatural marks on trees or vegetation, or branches bent or broken, etc., as above
- minor obstructions of all types, including vehicles, especially if blocking the only

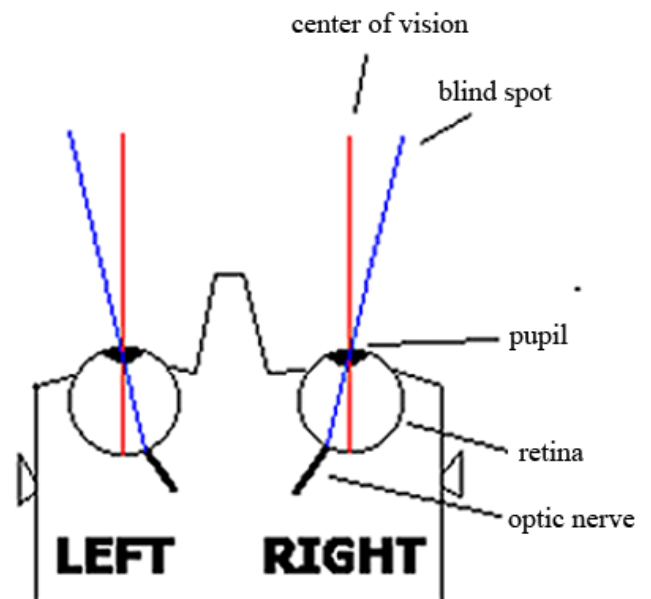
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- obvious access/approach route
- marks in surface dust or grime
- continuity breaks in paint work, surface grime, or vegetation
- patches of dead or dying (discolored) grass or vegetation
- open doors that one would expect to be closed
- closed doors that one would expect to be open
- the presence of wire, cord, nails, pegs, etc., that have no apparent function
- vehicles left unattended in unusual locations
- unattended luggage in likely target areas
- the discovery in nearby areas of chemicals and equipment of use in IED construction projects
- closed curtains or blinds during daylight hours in a house to which security force personnel have been called in order to investigate some alleged incident or problem
- single, anonymous calls to security force personnel to attend some allegedly serious incident
- blocked drains and drainpipes
- single access points, which the other side of (or the area beyond) cannot be seen
- an unusual absence of vehicles in a terrorist-sympathetic area
- all windows open in houses in a terrorist-sympathetic area
- an unusual absence of street troublemakers in a terrorist-sympathetic area
- the detection of an observer(s)
- the arrival of an unexpected parcel or package

### The Psychology of the Search

When you are trying to hide something from the authorities, there are specific techniques to throw law enforcement off the scent or misdirect them into looking in the wrong place. If you are searching for an IED or a WMD, it pays to know some basics about how the mind and the eye work.

As seen in the figure below there is a portion on the retina which has no receptors (rods or cones), and thus will not cause any sensation, and is known as the **blind spot**. All people have one, which can be as little as a few inches to several feet in front of your face. The majority of those with a blind spot are male; If in doubt, just ask your spouse.



There are ways of camouflaging to take advantage of the searcher's blind spot, such as adding clutter, or building false walls, or covering a hidden item in filth. Certain patterns make it difficult for anyone who doesn't know precisely what they are looking for to find it visually. They see a mental projection of what the initial form of the object suggests to them.

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For example, if you drive along a certain route every day, you gradually notice less and less of the details along the way. Walk that same route one time, however, and suddenly you notice the new bakery, or a building renovation. You become used to the surroundings until you alter your perception.

Patterns and shape can result in whether a searcher will be interested in continuing to search or not. If we like a pattern we will look at it longer than one that displeases us. A person who knows this can apply certain techniques to throw the searcher into confusion. Of course, a professional searcher may know this intellectually, but subconsciously will be reacting in a predetermined way.

However hard the searcher may try, objects that appear normal will create a block between the conscious and subconscious mind of the searcher, which results in missing a hidden space. The best patterns to create this mindset are irregular shapes, for, if scrutinized for more than 30 seconds or so, the onlooker will feel he has been looking at it for much longer, and will move to searching elsewhere. This explains the camouflage patterns used by the military, or why organic floral prints on a hidden wall might be ignored whereas horizontal or vertical lines might result in a closer inspection.

Someone who is hiding something may try and throw searchers off by using simple tricks. One is to double bluff; that is, to offer the searcher as much assistance as possible. By opening doors or moving furniture, while at the same time, insisting that nothing is there and offering reasons as to why, ("No point in looking there, I just keep my old fishing equipment in there, and it's pretty dirty!") creates a logical perception, so that the searcher becomes convinced that there is nothing to find. You are subconsciously persuaded that you are wasting your time. Using a decoy, such as an item of

interest but with little or no real intelligence value, the suspect may satisfy the searcher and cause him to look elsewhere or give up.

During a search, watch your suspect, because it takes great self control not to start talking faster or freeze up as you gradually get closer to what you want to find. Customs officers watch for this behavior at the border when searching a vehicle. An experienced search team will have at least one person watch a suspect for any changes in behavior.

With a view to limiting injuries or loss of life in the event a device should explode while a search is in progress, the principle of maximum separation is always applied. This means that searches are arranged to maximize the distance between teams, and (if two-man teams are used) between each team member within a given area. Ideally, a search team will comprise two-man teams.

A room search technique suitable for use by a two-man team sees the area divided into three visual segments:

1. floor to waist level
2. waist to eye level
3. eye level to ceiling

The room itself is divided into two triangles created by drawing an imaginary line through the center of the room from corner to corner. Searcher 1 goes directly to the farthest corner of the room and searches in a gradually reducing triangular pattern, working from the walls inward to the center of the room. Searcher 2 starts at the center of the room and works outward in a gradually expanding triangular pattern.

Ask yourself, what am I searching for? Create a visual image, and then ask yourself, how far would I go to hide this? The motivation of the searcher will determine success or failure, and an excellent way to find what you are looking for is to simply put yourself in the suspect's shoes.

## Leadership Comes With Risks, by Chris Lewis

Life is risky from the day one is born. Leadership comes with no end of risk – day after day, 24/7. The only way to avoid it is to never do anything, ever.

In my view, to take no risks as a leader is risky business in itself. The lack of decision-making, or the fatal flaw of not making decisions for the right reasons, will be the demise of many so-called leaders. If viewed as afraid to take risk or incapable of making a decision, the people you lead are undoubtedly going to wonder why they are taking such enormous risks when you won't, and will question if you will truly have their backs if things go bad.

Decisions will often go well and be huge successes. Some decisions won't go particularly great, but life will go on. Other decisions will be total train-wrecks unfortunately. The true test of the leader will be the reaction to all of those scenarios.

I firmly believe that real leaders will give credit to those they lead in the good times. When things go bad, and they will, the leader will assume responsibility and not pass the blame onto his or her people. We have all experienced the opposite.

Weak-kneed leaders accept credit for someone else's efforts or similar folks pass blame for their own blunders. If you do either of those things even once, then your goose will be cooked. It will spread like wildfire and you will lose whatever credibility you may have had, perhaps forever.

True leaders step up to the plate when there is a risk worth taking – for those they serve and for those they have the honour to lead, but not for their own career goals.

I've seen many leaders that are afraid to make a decision because to err or fail might adversely impact their chances at promotion, so they never make a decision. Alternatively, they make decisions based on what will make them look good, regardless of the impact their decision will have on the customer and/or their

people. Their fear of career-risk ends up risking their careers.

How did we ever promote those people?

Employees at all levels in private and public sector companies have to take risks. Of course in policing, those risks are often life-risking or at minimum can be life-altering. But mistakes will happen.

“Only those who dare to fail greatly can ever achieve greatly.”

– Robert F. Kennedy

We can't throw the towel in on our people when they do err and cast them aside like an empty coffee cup. We should always differentiate honest mistakes from maliciousness when doling out punishment, or we will dissuade our people from ever taking risk in their daily duties.

An admission of a mistake by a leader resonates greatly, probably because the men and women of the organization have so seldom heard such a declaration from above. Why are many leaders so reluctant to admit they were wrong, but then expect their people to fess up when they are? They likely view admitting that they are in fact human as a frailty, when in reality it is indeed a strength.

Actress and comedienne Lucille Ball once said: “I'd rather regret the things that I have done, than the things that I haven't.”

If you are afraid to take risk or will point fingers and run screaming into the night when things go bad, then accept that leadership is not for you. Find another role. It will save you a lot of stress and a ton of heartache for those around you.

Reprinted with permission of Chris Lewis, OPP, (ret), from *Blueline Magazine*.

## Arrest Related Deaths

### **Expert: ARDs rare but demand high-priority attention**

In a snapshot preview of a book he'll publish this summer, researcher Dr. Darrell Ross recently offered law enforcement trainers a provocative update on one of the rarest events in policing, yet one of the most vexing: arrest-related death.



In a presentation running nearly four hours at the annual training conference of the International Law Enforcement Educators & Trainers Assn., Ross explored new findings from an analysis of nearly 5,000 ARDs in the US that he conducted—likely the most extensive investigation of the subject yet undertaken.

“This is serious stuff,” he said. “Like officer-involved shootings, ARDs are contentious, controversial, and highly charged. They often involve racial issues that provoke media coverage and community outrage. Medical examiners and the courts often fail to understand them correctly. And officers in some cases are being unfairly criminally prosecuted and sentenced to unusually long terms in connection with them.”

At ILEETA, Ross, a CJ professor and director

of the Center of Applied Social Sciences at Valdosta State U. in Georgia, focused predominately on the relationship between ARDs and conducted electrical weapons. That subject and more are elaborated on in his forthcoming book, *Guidelines for Investigating Officer-Involved Shootings, Arrest-Related Deaths, and Deaths in Custody*, coauthored with Dr. Gary Vilke. The book is expected in July or August.

Highlights from Ross’s ILEETA appearance include:

**“HIGH PRIORITY” RARITIES.** Statistically, ARDs occur “very, very infrequently,” Ross said, “but the liability, implications, and political fallout from them are extremely high, so they command a high priority.”

Excluding officer-involved shootings, pursuit accidents, and suicides, he tabulated that 4,813 people died during a six-year study period while struggling during an arrest, while under restraint, during transport, while in custody, or at a hospital. That’s roughly 800 a year on average, and the trend is not increasing, Ross said.

Given that some 13,000,000 arrests occur in this country in an average year, control- and restraint-related fatalities result in only about 0.00006%, Ross calculates. In contrast, medical errors annually cause more than 250,000 deaths among the general US population. OISs result in about 900 deaths in a typical year.

About 75% of ARDs occur on the street, 25% in jails, and 5% in medical facilities. Two-thirds involve misdemeanor calls, predominately disorderly conduct/suspicious behavior, disturbances,



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domestic violence, and traffic stops/altercations.

Most decedents are males in the 20-45 age range, under the influence of intoxicants, mental illness, or both, Ross found. Typically, three to six officers are involved in the incident, and multiple uses of less-lethal force, including empty-hand control techniques, OC, and CEWs, have been employed. Commonly, the subject has become “tranquil” after having been “agitated” and “combative,” then “suddenly and unexpectedly” he is “unresponsive” – and dead.



**REVIEW PROBLEMS.** “For most officers, an ARD is a once-in-a-career event,” Ross said. “And the same is true for most medical examiners whose job it is to establish the cause of death.”

These fatalities can be medically mysterious, with a specific cause not readily apparent or easily determined at autopsy. “Classifying the manner of death can be problematic and requires caution,” Ross said. But with “little pathological evidence” to go on, he claimed, a time-pressured medical examiner may speculate without a solid medical foundation that arrest-related tools, such as a CEW or physical control/restraint techniques, were a causal or “contributing” factor.

In such cases, “temporal is conflated to causal,” Ross said. But because something like the use of a CEW occurred at about the same time as an ARD “does not necessarily make it a direct, causal link to the death,” he explained. Yet a medical examiner may draw that link “without explaining the exact mechanism” of causation or citing any “reliable, supportive scientific research.”

“Well-designed, peer-reviewed, controlled studies have discredited alleged causal diagnoses,” Ross declared, “yet they still appear on death certificates and autopsy reports.”

Likewise, courts in reviewing ARDs in civil or criminal cases often “misunderstand, misapply, or ignore” current scientific research, Ross charged, putting officers whose actions are at issue at a significant disadvantage.

**SCIENTIFIC REALITY.** Ross zeroed in on the speculative allegation that CEWs can be decisive factors in ARDs.

“Without question, the Taser is the most researched piece of equipment on a police officer’s belt,” he stated. More than 750 academic studies of CEWs have been published and in the process many alarming and persistent myths have, in fact, been scientifically refuted.

Well over 3,000,000 field applications and more than 2,000,000 training and other voluntary exposures, plus a bevy of research experiments, have clearly established these CEW realities, among others, according to Ross:

- CEW use presents “no substantial increased

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risk of cardiac dysrhythmia or ventricular fibrillation or induced cardiac arrhythmia”;

- “Studies have not found a physiological basis for respiratory compromise”; indeed, subjects tend to “breathe faster and deeper” when Tased;
- There is a “theoretical possibility” of electrocution, but a dart would have to penetrate to within 4mm of the heart, a near impossibility given the organ’s protective shield of flesh and bone;
- There may be a slight metabolic change, “but significantly less than that caused by fighting with an arrestee”;
- Researchers have “not found a clinically important effect from CEWs on the body’s electrolytes”;
- “Induced pain is not a valid contributing mechanism” to death;
- There is “no published data supporting” the risk of a CEW triggering a seizure or loss of consciousness;
- “There are no clinically significant biochemical or physiological changes from [continuous] CEW discharges up to 45 seconds”;
- “Multiple applications do not pose a substantial risk of death”; electricity does not build up in the body like poison.

**Bottom line:** “Research shows that the CEW is the safest force option available to law enforcement, with a lower risk of injury than other force measures,” Ross declared. There

are only two known ways in which CEWs can contribute to ARDs: by causing uncontrolled falls that induce fatal traumatic brain injury and by igniting flammable fumes that then kill the arrestee.

“The majority of ARDs do not involve CEW use,” Ross found. But when plaintiffs or prosecutors attempt to blame these devices for a subject’s death, “you need an attorney who thoroughly understands use of force, the equipment involved, and the science of human performance,” he said.



**COURTS SPEAK.** Ross, who has testified as an expert witness in some 300 law enforcement cases, has looked extensively into how the courts have treated ARDs. He analyzed 1,250 state and federal cases that were decided or settled between 1991 and 2016, and identified some useful trends.

Claims against officers primarily centered on allegations of excessive force, failure to follow training or manufacturers’ guidelines, false arrest (no PC), or failure to provide timely or competent medical assistance to an injured party.

Challenges of administrators tended to concentrate on allegedly unconstitutional or

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deficient policies that didn't meet contemporary police standards, as well as failure to train, supervise, discipline, properly hire, or meet requirements of the Americans with Disabilities Act.

Where courts have ruled that officers used unreasonable force, they've cited factors such as these, Ross pointed out:

- "No serious crime was at issue";
- "The subject's behavior or resistance was less than 'active'"; (generally, for instance, use of a CEW is considered excessive if used on a 'passive' resister);
- "The decedent did not present an immediate threat";
- Multiple officers were on the scene, so there was "no need" to use a CEW;
- Once the decedent was controlled and restrained and resistance ceased, the need for force ended.

Increasingly, Ross said, courts "like to consider the possible 'diminished capacity' of the decedent's mental state" in assessing whether the level of force was proper in ARD incidents.

They'll want to know if the suspect was "confused or disoriented, naked and unarmed, a flight risk, able to understand and comply with instructions and given time to do so," Ross said. "Mental health and diminished capacity are definitely relevant factors these days. An agitated and emotionally disturbed person does not necessarily equal an immediate threat" in the courts' view.

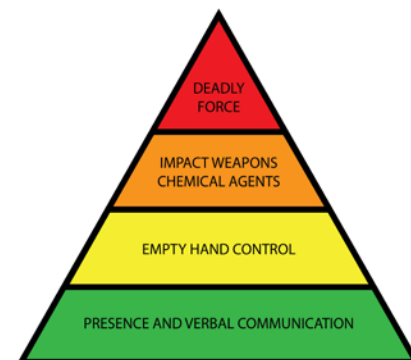
As part of his presentation, Ross analyzed significant ARD cases from each of the US

appellate circuits, including *Armstrong v. Village of Pinehurst*.

**DEFENSIVE PRELIMINARIES.** In a call to action, Ross urged trainers and administrators to begin preparing defensively for an ARD in their jurisdictions by tending to a couple of basics:

**1. Check your "Response to Resistance" policy.** Do officers understand it? Are they competent on it? Does it help them make decisions under stress in the field?

**2. Review your annual UOF training.** Does it include policy testing and an update on legal issues? Is it scenario-based and competency-based on all duty-belt equipment, as well as restraints and empty-hand control techniques? Is it decision-making oriented? Does it include multiple-officer responses? Does it cover CEW applications as related to diminished-capacity individuals? Does it include medical issues and responses to injured arrestees? Does it prepare officers and supervisors to respond to an ARD investigation and lawsuit?



Covering so much for such a relatively rare event may seem like a lot—until it happens, and you need it.

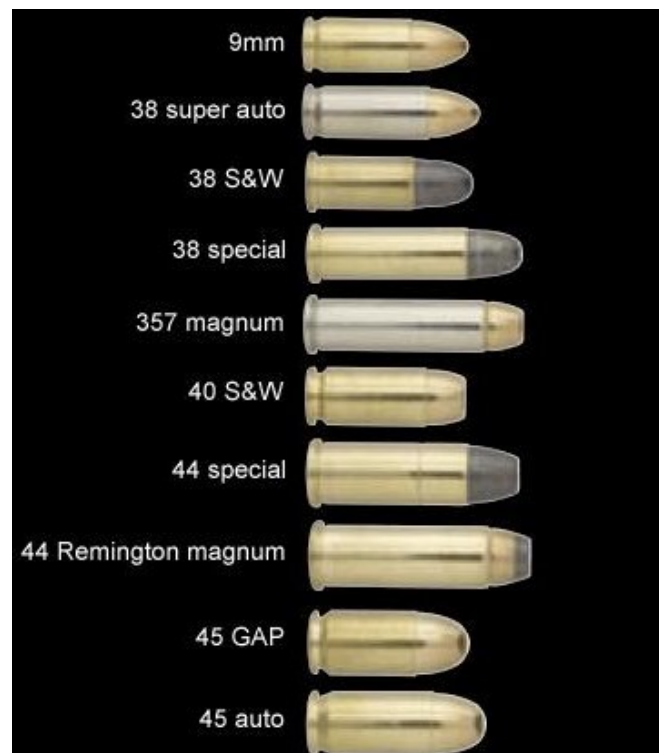
## Reconsidering the 9mm as a Use Of Force Caliber

### Executive Summary

- Caliber debates have existed in law enforcement for decades
- Most of what is “common knowledge” with ammunition and its effects on the human target are rooted in myth and folklore
- Projectiles are what ultimately wound our adversaries and the projectile needs to be the basis for the discussion on what “caliber” is best
- In all the major calibers there exist projectiles which have a high likelihood of failing law enforcement officers (LEO’s) and others which have a high likelihood of succeeding for LEO’s in a shooting incident
- Handgun stopping power is simply a myth
- The single most important factor in effectively wounding a human target is to have penetration to a scientifically valid depth (FBI uses 12” - 18”)
- LEO’s miss between 70 - 80 percent of the shots fired during a shooting incident
- Contemporary projectiles (since 2007) have dramatically increased the terminal effectiveness of many premium line law enforcement projectiles (emphasis on the 9mm Luger offerings)
- 9mm Luger now offers select projectiles which are, under identical testing conditions, outperforming most of the premium line .40 S&W and .45 Auto projectiles tested by the FBI
- 9mm Luger offers higher magazine capacities, less recoil, lower cost (both in ammunition and wear on the weapons) and higher functional reliability rates (in

FBI weapons)

- The majority of FBI shooters are both **FASTER** in shot strings fired and more **ACCURATE** with shooting a 9mm Luger vs. shooting a .40 S&W (similar sized weapons)
- There is little to no noticeable difference in the wound tracks between premium line law enforcement projectiles from 9mm Luger through the .45 Auto



### 9mm Justification for Law Enforcement Partners

Rarely in law enforcement does a topic stir a more passionate debate than the choice of handgun caliber made by a law enforcement organization. Many voice their opinions by repeating the old adage “bigger is better” while others have “heard of this one time” where a smaller caliber failed and a larger caliber “would have performed much

## Reconsidering the 9mm as a Use Of Force Caliber

better." Some even subscribe to the belief that a caliber exists which will provide a "one shot stop."

It has been stated, "Decisions on ammunition selection are particularly difficult because many of the pertinent issues related to handguns and ammunition are firmly rooted in myth and folklore." This still holds as true today as it did when originally stated 20 years ago.

Caliber, when considered alone, brings about a unique set of factors to consider such as magazine capacity for a given weapon size, ammunition availability, felt recoil, weight and cost. What is rarely discussed, but most relevant to the caliber debate is what projectile is being considered for use and its terminal performance potential.

One should never debate on a gun make or caliber alone. The projectile is what wounds and ultimately this is where the debate/discussion should focus. In each of the three most common law enforcement handgun calibers (9mm Luger, .40 Smith & Wesson and .45 AUTO) there are projectiles which have a high likelihood of failing law enforcement officers and in each of these three calibers there are projectiles which have a high likelihood of succeeding for law enforcement officers during a shooting incident. The choice of a service projectile must undergo intense scrutiny and scientific evaluation in order to select the best available option.

### [Understanding Handgun Caliber Terminal Ballistic Realities](#)

Many so-called "studies" have been performed and many analyses of statistical data have been undertaken regarding this

issue. Studies simply involving shooting deaths are irrelevant since the goal of law enforcement is to stop a threat during a deadly force encounter as quickly as possible. Whether or not death occurs is of no consequence as long as the threat of death or serious injury to law enforcement personnel and innocent third parties is eliminated.

The concept of immediate incapacitation is the only goal of any law enforcement shooting and is the underlying rationale for decisions regarding weapons, ammunition, calibers and training.

Studies of "stopping power" are irrelevant because no one has ever been able to define how much power, force, or kinetic energy, in and of itself, is required to effectively stop a violent and determined adversary quickly, and even the largest of handgun calibers are not capable of delivering such force. Handgun stopping power is simply a myth.

Studies of so called "one shot stops" being used as a tool to define the effectiveness of one handgun cartridge, as opposed to another, are irrelevant due to the inability to account for psychological influences and due to the lack of reporting specific shot placement. In short, extensive studies have been done over the years to "prove" a certain cartridge is better than another by using grossly flawed methodology and or bias as a precursor to manipulating statistics.

In order to have a meaningful understanding of handgun terminal ballistics, one must only deal with facts that are not in dispute within the medical community, i.e. medical realities, and those which are also generally accepted within law enforcement, i.e. tactical realities.

## Reconsidering the 9mm as a Use Of Force Caliber

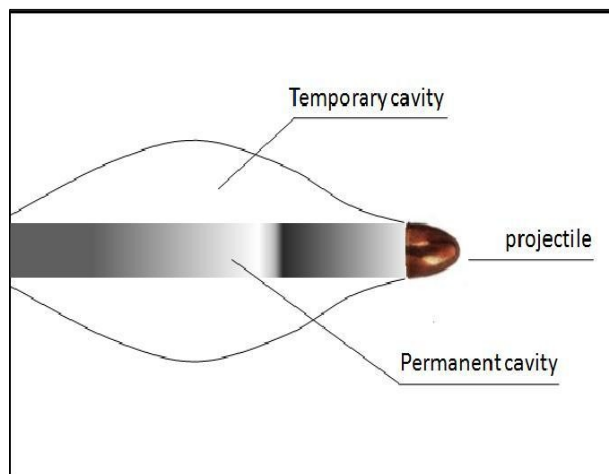
### Medical Realities

Shots to the Central Nervous System (CNS) at the level of the cervical spine (neck) or above, are the only means to reliably cause immediate incapacitation. In this case, any of the calibers commonly used in law enforcement, regardless of expansion, would suffice for obvious reasons. Other than shots to the CNS, the most reliable means for affecting rapid incapacitation is by placing shots to large vital organs thus causing rapid blood loss. Simply stated, shot placement is the most critical component to achieving either method of incapacitation.

Wounding factors between rifle and handgun projectiles differ greatly due to the dramatic differences in velocity, which will be discussed in more detail herein. The wounding factors, in order of importance, are as follows:

#### A. Penetration

A projectile must penetrate deeply enough into the body to reach the large vital organs, namely heart, lungs, aorta, vena cava and to a lesser extent liver and spleen, in order to cause rapid blood loss.



It has long been established by expert medical professionals, experienced in evaluating gunshot wounds, that this equates to a range of penetration of 12-18 inches, depending on the size of the individual and the angle of the bullet path (e.g., through arm, shoulder, etc.). With modern, properly designed, expanding handgun bullets, this objective is realized, albeit more consistently with some law enforcement projectiles than others.

#### B. Permanent Cavity

The extent to which a projectile expands determines the diameter of the permanent cavity which, simply put, is that tissue which is in direct contact with the projectile and is therefore destroyed. Coupled with the distance of the path of the projectile (penetration), the total permanent cavity is realized. Due to the elastic nature of most human tissue and the low velocity of handgun projectiles relative to rifle projectiles, it has long been established by medical professionals, experienced in evaluating gunshot wounds, that the damage along a wound path visible at autopsy or during surgery cannot be distinguished between the common handgun calibers used in law enforcement. That is to say an operating room surgeon or Medical Examiner cannot distinguish the difference between wounds caused by .35 to .45 caliber projectiles.

#### C. Temporary Cavity

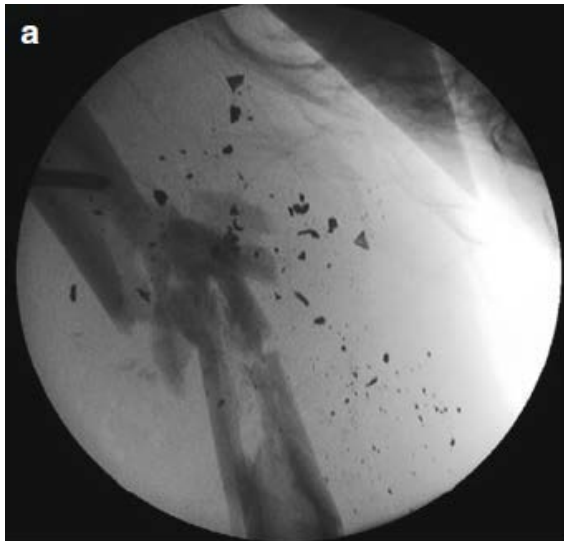
The temporary cavity is caused by tissue being stretched away from the permanent cavity. If the temporary cavity is produced rapidly enough in elastic tissues, the tensile strength of the tissue can be exceeded resulting in tearing of the tissue.

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This effect is seen with very high velocity projectiles such as in rifle calibers, but is not seen with handgun calibers. For the temporary cavity of most handgun projectiles to have an effect on wounding, the velocity of the projectile needs to exceed roughly 2,000 fps. At the lower velocities of handgun rounds, the temporary cavity is not produced with sufficient velocity to have any wounding effect; therefore any difference in temporary cavity noted between handgun calibers is irrelevant. In order to cause significant injuries to a structure, a pistol bullet must strike that structure directly.

### D. Fragmentation

Fragmentation can be defined as projectile pieces or secondary fragments of bone which are impelled outward from the permanent cavity and may sever muscle tissues, blood vessels, etc., apart from the permanent cavity.



**X ray of 9mm hollow point damage**

Fragmentation does not reliably occur in soft tissue handgun wounds due to the low velocities of handgun bullets. When fragmentation does occur, fragments are usually found within one centimeter (.39")

of the permanent cavity. Due to the fact that most modern premium law enforcement ammunition now commonly uses bonded projectiles (copper jacket bonded to lead core), the likelihood of fragmentation is very low.

### Psychology

Any discussion of stopping armed adversaries with a handgun has to include the psychological state of the adversary. Psychological factors are probably the most important relative to achieving rapid incapacitation from a gunshot wound to the torso. First and foremost, the psychological effects of being shot can never be counted on to stop an individual from continuing conscious voluntary action.

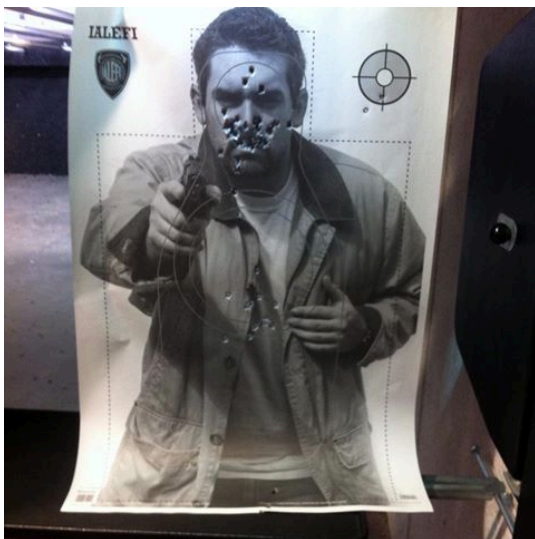
Those who do stop commonly do so because they decide to, not because they have to. The effects of pain are often delayed due to survival patterns secondary to "fight or flight" reactions within the body, drug/alcohol influences and in the case of extreme anger or aggression, pain can simply be ignored. Those subjects who decide to stop immediately after being shot in the torso do so commonly because they know they have been shot and are afraid of injury or death, regardless of caliber, velocity, or bullet design. Proper shot placement, adequate penetration, and multiple shots on target cannot be over emphasized.

### Tactical Realities

Shot placement is paramount and law enforcement officers on average strike an adversary with only 20 - 30 percent of the shots fired during a shooting incident. Given the reality that shot placement is

## Reconsidering the 9mm as a Use Of Force Caliber

paramount (and difficult to achieve given the myriad of variables present in a deadly force encounter) in obtaining effective incapacitation, the caliber used must maximize the likelihood of hitting vital organs. Typical law enforcement shootings result in only one or two solid torso hits on the adversary. This requires that any projectile which strikes the torso has as high a probability as possible of penetrating deeply enough to disrupt a vital organ.



**Ideal shot placement**

The Ballistic Research Facility has conducted a test which compares similar sized Glock pistols in both .40 S&W and 9mm calibers, to determine if more accurate and faster hits are achievable with one versus the other. To date, the majority of the study participants have shot more quickly and more accurately with

9mm caliber Glock pistols. The 9mm provides struggling shooters the best chance of success while improving the speed and accuracy of the most skilled shooters.

### CONCLUSION

While some law enforcement agencies have transitioned to larger calibers from the 9mm Luger in recent years, they do so at the expense of reduced magazine capacity, more felt recoil, and given adequate projectile selection, no discernible increase in terminal performance.

Other law enforcement organizations seem to be making the move back to 9mm Luger taking advantage of the new technologies which are being applied to 9mm Luger projectiles. These organizations are providing their armed personnel the best chance of surviving a deadly force encounter since they can expect faster and more accurate shot strings, higher magazine capacities (similar sized weapons) and all of the terminal performance which can be expected from any law enforcement caliber projectile.

Given the above realities and the fact that numerous ammunition manufacturers now make 9mm Luger service ammunition with outstanding premium line law enforcement projectiles, the move to 9mm Luger can now be viewed as a decided advantage for our armed law enforcement personnel.

Excerpted from May 6, 2014 edition, *FBI 9mm Justification for Law Enforcement Officers*, FBI Training Division: FBI Academy, Quantico, VA

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