



Let there Be Light

New Tools, Tactics, and Training

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May 2001

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Low-Light Conditions are the conditions in which most officer-involved shootings and serious confrontations occur. Yet, little tested and codified doctrine exists to deal with these confrontations. Strategos International, is attempting to bridge this gap through constant analysis, critical thought, operational experiences, and constant feedback from military members and law enforcement personnel.

Law enforcement professionals are constantly scanning the horizon for new tools to enhance their operational capability. Well-designed tools can allow new tactics to be employed or current tactics to become more effective. In order to take maximum advantage of tools and tactics, the appropriate training must be received to achieve consistent and repeatable results under stressful conditions. Tools, Tactics and Training should be viewed as a contiguous whole. Separation of these leads to a conflicted human operating system.

Training must reflect the tactical use of the tools chosen and carried. As an example, let's pick an officer who spends his entire time in a martial arts dojo learning how to ground grapple in a martial arts uniform. After a period of time, the officer may fully believe that he is fully prepared for a fight that ends up on the ground. Unfortunately this hypothetical officer has never trained with all his operational tools in place. Suddenly a real world engagement occurs and priorities change to weapons deployment and weapon retention.



Additionally wearing body armor, operational clothing, and a duty-rig will restrict movements, eliminating familiar options. Terrain considerations become extremely important.

Multiple opponents are a problem and so on.

Tools, their placement on body, their accessibility and their effect on non-compliant individuals all have significant impact on strategy, tactics and training. The same holds true for illumination gear.

Tool Selection

A number of night vision and thermal devices have been developed to assist the law enforcement officer in low-light environments. They have unique and specific purposes, but these tools are not the proverbial “Holy Grail” to conquer the darkness. They are generally out of the budget constraints for most departments.

Specific threat identification can be difficult with these devices. They impair the officer’s depth perception and reduce the peripheral awareness required for close quarter encounters or foot pursuits. They are also difficult to employ in dynamic, fluid situations.



Last but certainly not least, these observational devices do nothing to proactively disturb the threat’s ability to function and harm the officer.

It is my contention that white light illumination tools, if properly used are the most appropriate and effective tools for general and high-risk law enforcement low-light operations. However, they have not been leveraged properly in most cases. Why is this so? Inappropriate tool selection, tactics based on lack of understanding, and infrequent quality training in the low-light arena.

In the past, illumination tools have simply been too large to carry comfortably. No operator will consistently carry something that is falling off, causing pain or adding to the three-hundred pounds of “lightweight” gear required to be worn. Many white-light illumination tools are not specifically designed in view of the realities of close quarter engagements with handguns, shoulder-fired weapons and the difficulties associated with arrest and control. As a result, officers can often find themselves in a diminished lighting condition without a lighting tool, i.e., inside a building at high noon without a proper illumination tool because it was left in the vehicle.



From the hardware perspective, the optimal law-enforcement lighting tool should meet specific criteria, including:

- Small enough to carry on your person at all times.
- Switching designed to get the tool on and off immediately under duress.
- Highest intensity possible for threats, stopping short of any permanent eye damage.
- Lower intensity mode for navigation, vehicle searches, and administrative functions
- Dependable and Durable under multi-environment conditions

A good quality tool may be the difference in the officer coming home safely. I have noted in my 20 years of involvement with the law enforcement community as a trainer, that some officers are willing to put a \$1,500 prop on their ski boat, but unwilling to spend \$150 on a powerful lighting tool. I often ask officers "How much is your arm worth, your face or your life for that matter? How much is a tool worth that may allow your kids to keep parent?" As one of my colleagues always says, "Lets stop issuing a \$600 firearm along with a buck-fifty flashlight."

No matter how well designed, a light can become a serious liability when improperly used. Horizontal and vertical placement of the lighting tool, angle, duration and rhythm of the pulse are all defined and dictated by the user. Sound tactics developed through proper training are essential.



I think the Japanese long sword is a marvel of design and a fearsome, battle proven cutting tool when placed in the right hands. In the hands of the untrained....a catastrophe waiting to happen!

Why carry a Light?

No matter where you work, law enforcement is a 24-hour a day operation. In most locations criminal activity increases after the sun goes down, darkness is their time. They seek the anonymity that the cloak of darkness can provide. As stated earlier, even during the day, building interiors can present murky, poorly lit environments that rob an officer of his/her ability to clearly observe suspicious activity.

Knowing this, one must understand and explore what can be done with the light spectrum in confrontational situations and high-risk environments. Human beings make decisions based on the information that they are able to gather through their five senses. Since most of that information is gathered through our eyes, maintaining the ability to observe in low-light conditions is absolutely critical. Shutting down our opponent's ability to observe is equally important.

Because of the time constraints involved in projectile based engagements the need for threat identification is immediate. The inherent physiological limitations of our observation system in low-light conditions does not give us the required visual cues to quickly evaluate the tactical situation and then make decisions based on our evaluation. Hence additional illumination is required to make this evaluation in a compressed time frame. Rapidly locating and evaluating suspects now becomes a matter of life and death.

Although our ability to see in low light conditions increases significantly after our eyes have become dark adapted, (takes about 25 minutes) most officer involved shootings occur within the first 2 minutes of the officer arriving on scene; therefore the officer will not be dark adapted. The threat may well be. One must also keep in mind, that during the process of dark adaptation, your 20/20 vision may drop to the 20/400 – 20/600 range in the newly arrived upon environment.

See yourself as the threat sees You

On the military battlefield, one of the snipers highest threats is another sniper. The enemy sniper “sees” the world as you do. In order to survive, a good sniper will always be considering himself from the opponent’s viewpoint and attempt to operate from within his opponent’s mind. It is a mental chess game, with serious consequences.



The same holds true for low-light operations. One must “see in reverse”. Officers can be lulled into a dangerous false sense of security. When they cannot observe threats, a subconscious assumption can be made that threats cannot see them. From the officer’s viewpoint, little information is being gathered and transmitted to the brain in the form of useful imagery. The officer falsely believes that any threat in the area is functioning with the same set of information. Assuming the officer and the threat both have 20/20 vision in good light, the suspect clearly sees the officer at 400-600 feet, while the officer must move within 20 feet to get the same information since the officer is not dark adapted. How can one successfully operate with this disparity?



Proper Employment of Illumination Tools.....Tactics

Use the light intelligently and lean toward the intermittent side of the light employment. The closest illustration for this methodology would be the firefly. When you see the glow you establish a direct line to the insect, if you reached to grab in the same location immediately after the glow, the firefly would no longer be there.

Light/move or Light/move-shoot/move if required.

Discharge a short burst of light, and move. Evaluate what you just saw, in the same way you view the speedometer of your vehicle. Don't stare at the speedometer, but rather let your subconscious mind feed you the data. Parallel this same observation methodology when trying to get useful information is diminished lighting conditions. Additionally, try to randomize your light on duration periods, angle of the beam, distance of the hot spot from your location, vertical and horizontal place of your light. This will appear chaotic to potential threats downrange. It does not give unknown threats a simple firing solution, and may provide the edge you need to successfully locate and identify your threat first.

As you perfect this methodology, you will be able to decrease the duration of your light output, and obtain better information in smaller time frames.

If the threat does fire a weapon, and it is a low-light environment, he or she is firing blindly or randomly at the illusion you should be creating. You may well be able to see muzzle flash from the threat's weapon. You will now have excellent information in terms of location of the threat and intention of that threat. You decide whether to retreat, contain, or assault, based on your mission and resources.

This illumination methodology brings your ability to see, closer to the 20/20 end of the spectrum while simultaneously maintaining a reduced visible signature. Remember, oftentimes if you do not illuminate you will see nothing of consequence; the threat may still see you.

Continue to light and move until a threat is located and the environment has been sorted out in your mind. Too often, officers that are searching a given area attempt to take it all at once.

Bottom line, your light, vision and field of fire only covers so much area, so blend with this reality.

A variety of weapons do not have self-illuminating sights. I choose not to have these as they can be target indicator in low-light, close quarter situations, but that is another discussion. You may want to experiment with firing on the range at night with almost no light. Learn to pick up the front site off the muzzle flash of your first shot. Move and fire a second volley. After firing the second time move again to clear out of the space you were occupying. Remember your weapon is giving off the telltale muzzle flash for the threat to key off of. This methodology should only be used against previously identified known threats.

Light As a Control Tool or “Force Option” – Powering with Light

Once you locate your threat, you now want to force them into a situation that is advantageous to you. Do not allow them to move or see freely. “Force” in our environment is projecting our will within our sphere of influence and obtaining compliance. Officers spend most of their confrontation time, talking to or arresting people. Rarely do they have to discharge a firearm during these frequent confrontations. Light is usually not associated with the “Force Continuum”, however light can be used as a “Force Option” to temporarily blind and overwhelm a threatening individual, much the same way that pepper spray temporarily disables a threat. Intense, bright light will take away the threat’s ability to gather useful information, thereby disrupting the ability to make good decisions.



This blinding effect can be experienced out to 100 yards with some handheld and weapon mounted illumination tools in clear conditions.

In this case, I do not want to allow the opponent(s) to see what I or my partner(s) are preparing to do, so I overwhelm the threat’s visual sensors, creating useless and confusing signals to the threat’s visual system.

A quality lighting tool properly employed is a valuable potential “Non-Lethal” Force Alternative.

During this confusion phase, the opportunity exists to close the physical gap to a suspect that must be forcibly constrained. The cover officer is creating a wall of white light (picture a vehicle stop) from which the partner officer or other officers can operate behind. These officers can now deploy non-lethal options, which generally are more effective when the suspect has no previous indication they are going to be used. We’ve all heard and used the term “blindsided”. Blindsiding the threat is a preferred objective.

This is especially effective and even painful to the threat if the threat’s eyes are fully dark-adapted. When contact is made, you will find the threat usually feels unbalanced and predisposed to be taken down, as the visual horizon has been lost.

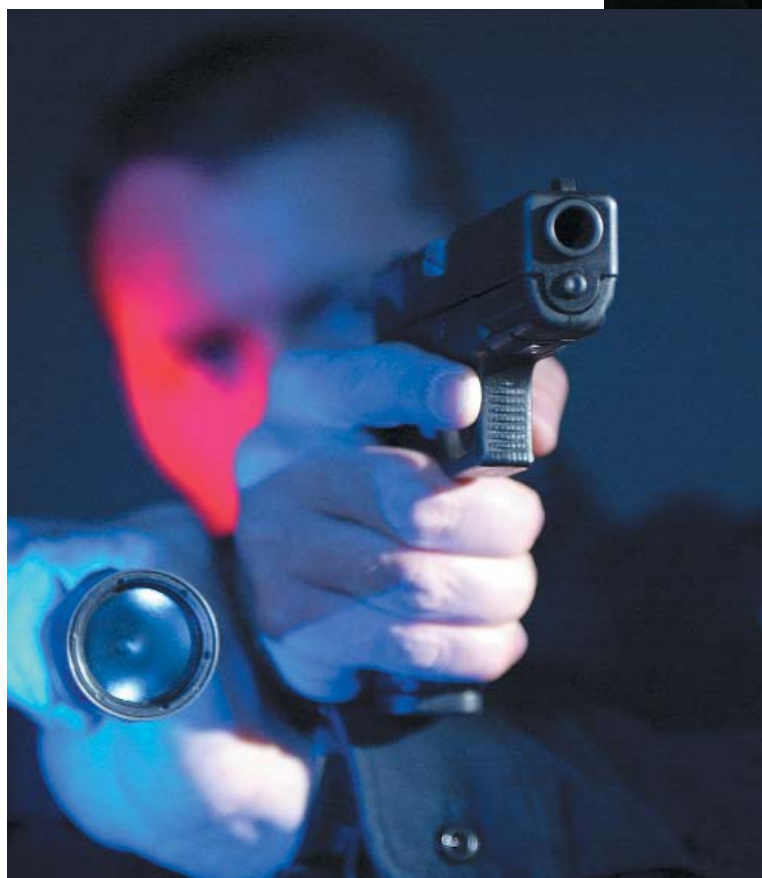
One of the frequent mistakes made by officers is that the “hot spot” of the flashlight is directed to the mid-torso area of the suspect. The reason for this is that most officers have been correctly taught that “hands kill” and to watch a suspect’s hands. While this is sound doctrine, the same task can be accomplished by directing the center of the beam directly into the suspect’s eyes, and you will still see the hands. This significantly alters the suspect(s) ability to access the officer’s movements or mount a successful counter attack while simultaneously allowing you to still see the suspect(s) hands.

Many officers can recall requesting a newer officer to pullover for a roadside chat. The newer officer is directed to fix his or her gaze to a particular spot and the fun begins! The vehicle spotlight is switched on directed into the uninitiated officers retina.

In these moments of time one must understand and exploit the timing and windows of opportunity, close the gap and take full control of the situation. Using a lighting tool in this manner provides the officer with a truly “Non-Lethal” alternative. Percentages dictate that because of the mission (saving lives) of a special response officer that they will utilize non-lethal alternatives far more frequently than deadly force.

Use of a Hand Held Light with Handguns or Shoulder Fired Weapons

Learn the principles of low-light engagements, read the light levels (back lighting, front lighting, unequal lighting), when to light and move, when to power with the light, seeing from the opposite perspective, align three things (weapon/sights, eye and lighting tool). Also, carry more than one light. These are primary concerns. The techniques for holding a flashlight along with your firearm should be mastered, but this does not indicate an understanding of low-light engagement principles.



There are many effective flashlight techniques to use a pistol along with your handgun. I am often asked, which flashlight technique is the best?

My department teaches such and such. Should I use this or use that?

My answer is Yes.

Each technique has its own strength and weaknesses and should be evaluated not only from the how well did my group appear on the target perspective, but should be tested in the crucible of “force on force training” and operational experiences, where the more pertinent questions will be asked and answered. Tactics, body types, training time, experience, and equipment selection all figure into the matrix. *(see flashlight techniques article)*

If you plan on going toe to toe with Mike Tyson in the ring, you may want to bring more than a left jab to the party.



I recently read an article stating that if you are being told by anyone to keep the flashlight away from your body (a technique), you can immediately discount anything this individual has to say, as they clearly do not know what they are talking about.

I noted over the years, that tactical discussions can quickly disintegrate and become extremely “religious” in nature. Individuals get heated and emotionally involved during these lively “debates.”

I have also noted, most are unwilling to put their bodies in a good simulation environment utilizing “Force on Force” engagement training and show all concerned, in real time, the effectiveness of their doctrine. In several tens of thousands of “Force on Force” training engagements over a 15-year period, it has been frequently observed that the hand-held light was struck by the projectile(s), the officer was not. This happens simply because the suspect was shooting at the only known reference point in the environment, the light. No sights, no dots, no lasers, just line up the body and shoot. Even marginal shooters will make dead center shots on the flashlight from an otherwise no light situation from 30 feet away. If I asked that same shooter to do that in the daylight with his sights, he probably would have difficulty repeating the accuracy.

Let’s face the obvious facts, suspects automatically assume that a torso is behind the bright light and that the shots that are fired towards the light will strike the officer. Knowing this, until I have located my threats, I simply keep the flashlight away from my body as much as possible. Yes, most shooters will shoot targets on the range yielding tighter groups with a flashlight assisted shooting technique, but one must keep in mind that in actual confrontations, the suspect has specific a disadvantages when one does not know the suspect’s location.

Once I’ve locked down the situation in my mind and know where my threats are or cannot be, I will usually revert to a more “established” technique. The situation will show you the best technique required at the time.



Learning to utilize and shoot while using a hand held light in conjunction with a shoulder-fired weapon is highly effective, and an advanced motor skill set which requires additional training, which will not be addressed here.

Integrated Lights on Shoulder-Fired Weapons

Shoulder-fired weapons without integrated or mounted lights are less than 1/2 a weapon and should not be deployed in low-light law enforcement situations because they are an inherent liability. A Southern California Police department was successfully sued for a wrongful shooting that took place on the beach. The officer misidentified a radio for a gun and engaged the citizen with a 12-gauge shotgun. The permanently crippled man probably does not appreciate the fact that the department then purchased dedicated lighting systems for all department shotguns after his mishap.

A high percentage of law-enforcement shootings take place in low-light conditions and when you aren't actually shooting someone you will probably be navigating in unknown environments, locating possible threats or threat areas, identifying friend or foe, as well as controlling threats or threat areas with your light. Don't forget that after the first fight, you will have a second fight and that is in our legal or civil court system. Having a good light on your weapon will only serve your cause in terms of being able to demonstrate that you have reasonable knowledge of what was happening off the end of your barrel.



How should we Train for Low-Light Confrontations?

We are trying to essentially provide the officer with realistic stimulus in order to elicit a response and then judge or question that officer based on that response. We are trying to have these responses come relatively easily and without internal turmoil or resistance.

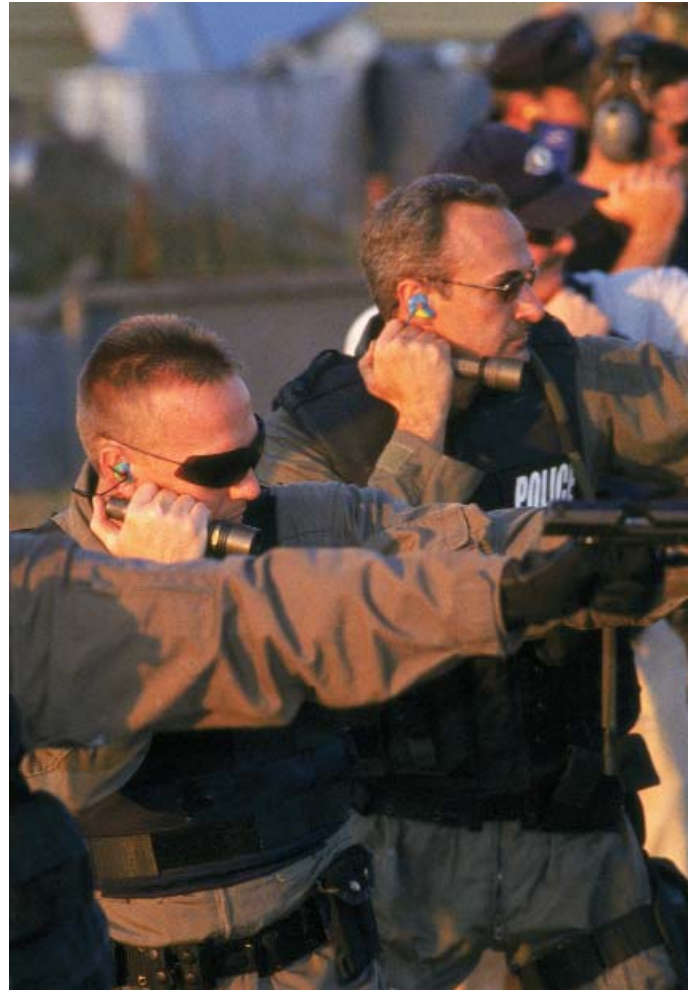
Move from technical work to dynamic application work.

Technical work on the range and a shoot-house should be first done in well-lit conditions to get familiar with equipment and ensure proper weapons handling when around other officers.

Accuracy and speed are improved here. Although try as we might, it is not the place to simulate tactical engagements. In the shoot-house, the greatest stressor becomes how small was my group on such and such a target? Use Virtual Reality (VR) simulators for judgment considerations and Force on Force for timing, to elevate stress levels, and creating dynamic interaction with skilled opponents.

Flashlight techniques should be committed to the sub-conscious during daylight sessions so mishaps are reduced.

Put officers in the dark more often. It is inconvenient, more work and harder to administer, but absolutely essential. It is the environment where most of the serious things are going to happen. Most would rather catch "Monday Night" football, have a great dinner with our family and call it a day. Everyone must balance their own operational and training commitments with personal requirements. Reconcile them with the fact that we are not in the floral industry.



Incorporate “Force on Force” Training into your firearms training systems as much as possible. It is inconvenient, more work and harder to administer, but absolutely essential. It is the most effective way to develop critical reflexes for correct decision making under duress.

One of my martial arts instructor frequently said, “If you want to learn how to hit people, you must hit people and be hit by them.” This is in stark contrast to kata, point fighting and other methodologies not involving a hard hitting opponent.

The purpose of “Force on Force” training is to reasonably simulate many of the stresses, timings, and difficulties associated with defensive and offensive conflicts and engagements typically faced by those in law enforcement. The more elements of the actual attack that are

present during training, the more you can be

assured of future success in these environments. Quality “Force on Force” training should include two things; Stress and Pain. Padding a trainee up to the point that impacts are unfelt negates one of the key benefits of the training.

Sounds Neanderthal, but nevertheless true. Stress and at least the fear of pain, injury or death are significant elements in actual street confrontations. We should not put officers in the position of having to deal with this fear and pain for the first time in public.

When optimally training, you must create the necessary level of stress and adrenaline to challenge motor skills and the decision-making process. It has been seen time and time again that quality “Force on Force” training reveals critical errors not readily observable with other training methods.

A good analogy might be defensive tactics, technical work in the mat room. Do steps 1-4 to facilitate a wristlock to takedown. Repeat and repeat again. Now ask that same officer to complete the task against a training partner with a FIST suit on that will not cooperate. An entirely different outcome may be experienced.

Experienced, “well-trained” officers may surprise themselves when having to make correct decisions in a “Force on Force” environment simply because their decision-making processes have never been seriously challenged. The training environment is the place to make mistakes and improve.

The learning curve of “Force on Force” training is very steep due to the realistic, practical, “hands-on” approach to training. Additionally by training with others that have the greater knowledge and a higher skill level, the entire groups capabilities rise. By building these mental pathways under duress, the officer will respond faster with greater decision accuracy when confronted in the real world.



Using Virtual Reality Simulators to prepare for Low-Light Conditions

Virtual Reality Simulators allow the officers in the simulation to have some candid discussions with the other officers about (shoot/no-shoot) decisions made during the simulation. They allow the participant to evaluate shot placement and shot intervals. They are extremely useful tools, just don't lull yourself into believing they are a complete answer to solving your low-light engagements. They are a piece of the pie, just as other training methodologies are.

Virtual Reality Simulators have several shortfalls when it comes to teaching officers how to prevail in lethal force engagements day or night. They just need to be recognized.

To start with, virtual threats in these virtual simulators are unaffected by intense white light into their virtual eyes. Additionally, the screen washes out by the light and the officer does not get the experience or training in how to use a handheld light in conjunction with their weapon.

Virtual reality type simulators can instill potentially catastrophic responses unawares. For example they do not penalize the officer for the fatal flaw of ignoring the more deadly area behind them. Target fixation is the number one killer in close quarter 3D environments. Scenarios are presented on a flat, 2D screen and the officer is asked to stand there and view the screen and make shoot, no-shoot decisions based on the information observed/heard directly in front of them. This rewards the officer for primary focus on the area directly in front of them.

Some simulator operators focus primarily on the speed in which the officer put rounds on target. Speed is not a part of the true way of strategy. Speed implies that something is fast or slow in regards to timing. I have personally worked with world-class shooters that can consistently beat me out of the holster and place shots on the paper when the stimulation to shoot is audible tone from a PAC timer. These same shooters may or may not be effective in a "Force on Force" environment with multiple friend and foe.

Shooting quickly has little correlation with tactical prowess. Tactical prowess is the ability to assess the slight or overt body/verbal cues of the threat(s) in order to accurately predict future events, and effectively act upon those events. This creates the time/tactical advantage needed to be successful.

We have to be extremely careful what we feed into the cache of the brain in terms of stimulation to engage a target.

The resolution of current video simulators is nowhere near the actual resolution required to create the proper experience for the brain to call upon when needed. Valuable visual and audio cues are missing and stilted. I have seen tens of thousands of actual human beings move under duress and engage with a variety of weapons, they don't look anything like what is seen on the screen of current simulators.

In contrast, ask someone to enter a room with the possibility of getting stung hard by non-lethal projectiles, and you see them mentally and physically dig down for a gut check.

Heart rate increases, adrenaline starts to pump, breathing patterns change, palms sweat, auditory and visual exclusion manifests itself. These responses have to be managed. We are creating the proper mental “memories” and “pathways” during the training segment that can be called upon when required.

When we are training properly, we are training our mind, body and spirit to act in harmony with the actual reality of the moment. If we have not seen any reasonable semblance of this reality, how can we expect to be successful when the reality comes to us in the form of living, breathing, threatening humans, exerting tremendous pressure on our person?

Success on VR simulators in some rangemaster’s minds is only measured in terms of shot placement, number of shots, shot timing, shot intervals and whether or not the engagement involved the correct level of force, all important but not representative of the entire skill set.

What are some of the other essential elements for successful close quarter engagements?

Proper Distance/Skeletal Relationship - I am NOT repeating the often heard, mantra of distance, distance, get more distance! Proper Distance is the key. What is it? Can't say for every engagement. Sometimes closing is extremely beneficial, other times increasing distance is critical. This is the intuitive art of engagements, not something accomplished through technical work exclusively. Changing the angles along with horizontal and vertical displacements is crucial. I have been chastised for moving into the threat at closer ranges. Never mind what psychological/physiological impact has on real human beings. Never mind that the threat was holding a 200 lbs. human being hostage and was essentially blind from one side or the other. Threats in VR simulators are unaffected by the variety of distance changes possible. Let's not encourage officers to stay in the known kill zone. You cannot back away from super-sonic projectiles fast enough. Your body is not well designed to move backwards efficiently. You can however displace laterally and vertically quite well.

Timing - Efficient, well-timed movement "in the moment". The threat believes that the officer is going to at one point in space, and without telegraphing, the officer has moved, drawn a weapon and engaged while still on move. This immediately presents a difficult to defeat situation for the threat. Valuable mental and physical resources are being consumed by the threat while trying to solve a now fluid and dynamic situation. Since the threat in the VR simulator cannot think, he or she is unaffected by the pressure of well-timed movements.

· ***Applying #1 & 2*** - Correct distance, timing, and combat efficiency will allow the officer the opportunity to use the proper level of force. Telling him or her to use the proper level of force or face the administrative/legal consequences will only load the officer with more fear...which brings me to:

• **Fear management** - Officers can operate from a "fear based response". They are merely trying to "SURVIVE" the encounter as opposed to fundamentally understanding the nature of engagements and applying the appropriate principles. Proper drilling in a well-managed "Force-on-Force" (FOF) training environment will cultivate these critical elements.

What can VR simulators instill and reward? They can reward static firing and static movement; easily read by opponents. The exact opposite is the primary key to successful close quarter engagements.

I have been chastised for firing 3 rounds as opposed to 2 rounds during a simulation debrief by the simulation manager. Completely based in fantasy. If I have to destroy a foot, shin and kneecap to get a head to drop and then shoot the head multiple times to defeat the opponent, so be it. It is what it is, no more no less. VR simulators will not reward this type of approach.

Seek cover behind the wooden box provided on your left! Never mind, that I cannot outrun super-sonic projectiles or that the wooden box does little or nothing to change the physical laws of the universe as they apply to high-speed projectiles. Movement in relationship to the visual targeting system, the human operator animating the weapon is what needs to be addressed, understood, and defeated.

My point is some simulator managers are part of the proverbial "the blind leading the blind". This individual needs to understand the strengths and weaknesses of the simulator when it comes to teaching officers how to prevail in lethal force engagements in low-light conditions.

Bottom Line . . . all technical work, simulators and Force on Force training methodologies fall short in various areas. They all require process improvement and we should not be content with what we have.

They must be seamlessly and logically chained together to arrive at the proper destination.

The destination being the ability to express our will day and night under extreme duress utilizing the emerging tools and evolving tactics ingrained through proper progressive training.