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## Terminal Ballistics as Viewed in a Morgue

Comments by Deadmeat2 (and a few others) found on the SW Forum  
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Original Post is [Here](#)

One of the benefits of working in a morgue is that I get to see what works and what doesn't. Ballistic gelatin is good as far as it goes, but there's nothing like seeing what a bullet actually does once it strikes bone, flesh, and organs. Suffice it to say, it doesn't always mimic ballistic gelatin.

The other is that I get to hear some great CCW stories. Here's one of them: A recently-married couple living in one of the less desirable sections of Atlanta decided that for safety purposes they should get a handgun and learn how to shoot it. They bought a Glock 27 in .40, CCW permits, and made regular trips to an indoor range.

One evening, having just come back from the range, they cleaned and loaded the Glock and had left it on the coffee table in the living room, intending to put it up later. Shortly thereafter they heard a knock at the door and, expecting company, opened it without looking through the peephole.

A crazed male entered the apartment brandishing a handgun yelling, "Give it up, give it up!" The husband said that it was obvious the individual was high on drugs and there was absolutely no question in his mind that both he and his wife were going to die. Knowing this, he decided that his only option was to go down fighting.

The BG forced them both down a narrow hallway into the living room, screaming all the while. The husband was in the lead, followed by his wife, and then the BG, whose view of the living room was being blocked by the husband and wife.

The husband reached down, grabbed the Glock, pushed his wife aside, and fired one shot at the BG, striking him dead center in the middle of the chest. Although knocked to the floor, the BG still made a feeble attempt to retrieve his own gun. At this point, the husband let him hold another one to the chest. That ended that little problem.

Upon talking to the still-shaken husband, the police said he could remember little of what all the BG had said. As he recalled it, "All I can remember is that his first words were 'Give it up!'" and his last words just as he saw the Glock were "Oh, (fill in the blank)!"

I see an average of 8.2 autopsies per day/365 days per year, and I can tell you that when the chips are down, there's nothing that beats a 12-gauge. As for handguns, the name of the game is not only shot placement but how a properly-placed bullet acts once it gets there. I've seen folks killed by a bb to the eye and others survive after being hit by several well-placed rounds with a 9mm.

As for me, I'll take a slow-moving .45 to a gun fight any day. I absolutely despise a 9mm for defensive situations (yes, they will eventually kill but often not quickly enough to prevent the BG from doing you in first) and a .380 as well. These are probably the two calibers I see most often on

the autopsy table.

But then, I've seen most everything. I've seen a guy killed by a .416 Rigby, as well as a suicide to the head with a .44 Mag that didn't penetrate the skull on the other side.

The long and short of it is that you just don't know how ANY bullet will react to tissue and bone until you open them up and take a look. I've seen hardball fragment and hollowpoints act just like hardball. That said, shoot what you're comfortable with and place your shots well whatever caliber you use.

The .357 is gloriously effective. It's just that semi-autos are much more common than they used to be, so we see far more 9mm and .380 rounds on the autopsy table than we do the .38 and .357. Particularly among the gangbusters, the 9mm and .380 are the weapons of choice. The .357 is a wonderfully effective round for self-defense from what I've seen, but it's rare that we get them in anymore.

Again, this is from experience that I've made my calls on what works and what doesn't. I have no use for mouse guns like the .32, although it's a lot better to have a mouse gun than nothing at all. Personally, I'll never carry anything smaller than a .40 and prefer the .45. Day in and day out, results from the autopsy table show me that the .45 is the gun to have in a gun fight, provided you can shoot it well. If not, it's better to have something you can shoot well, even if it's a mouse gun, than something you can't.

Yeah, tell me about it, Smitty. I spent most of my life in Knoxville, TN and absolutely loved it. But then, my job is working in the Medical Examiner's Office, and, as you said, this is a target-rich environment. Having a job in an Atlanta morgue is job security at its best.

KRL, I'll take slow and heavy to light and fast any day. What I want is a round that plows through bone and tissue and expends ALL of its energy in the body. That said, the 125-grain .357 is marvelously effective.

S/W-Lifer, You're correct in what you're thinking. Yes, the 9mm and .380 are the rounds I most often see on the autopsy table, but they're also the rounds that usually require multiple hits to make the kill. The standing joke in the morgue is to guess the caliber by looking at the x-rays. If multiple rounds show up on the x-rays more often than not it's a 9mm or .380 (or .32 or .25 or some mouse gun caliber). If only one round shows up, it could be an inordinately good hit with a .380 or 9mm, but more likely it's a .40 or .45.

Yes, the .380 and 9mm will do the job, but usually multiple hits are required as opposed to single hits with a .40 or .45.

Instead of individual replies to each of these questions, let me see if I can narrow some observations down into one long one. Forgive me if some of these have been in other posts, but they bear repeating.

First, ballistic gelatin, being all that's available for most bullet testing, is good as far as it goes but it's often far different from what we see in the morgue. A far more realistic scenario would be to dress up ballistic gelatin with a heavy coat of denim to mimic blue jeans, embed some bones obtained from a butcher shop, and throw in a few objects of varying densities to mimic organs. Try it again, and I think you'll see that this impressive wound cavity that's so often seen in ballistic gelatin goes

down the tubes. The human body isn't just composed of one density as ballistic gelatin is, and the bullet does various things to various parts of the body as it passes through.

And that's why I think observations from a morgue are so important. Day in and day out, I get to see what works and what doesn't. More than that, I get to see what the same caliber does with various bullets weights and designs and how it reacts to different parts of the body. The best of all are when the gangbangers use the mix and match technique and shoot a variety of bullets in the same magazine and these bullets wind up in the same victim shot from the same gun. Hardball and hollowpoints in the same body from the same gun give a great comparison on the effectiveness of each.

So let me give a few thoughts here. First, as you've pretty well guessed by now, I'm a big fan of the .40 and .45 for personal defense, and for the same reasons. They're both big, slow-moving bullets. Of the two, I think big is more important. As I've said before, I want something that will plow through bone and keep going, not skip off of it. I can't tell you how many times I've seen a .380 or 9mm strike bone on a well-placed shot and skip off in a non-vital direction, leaving the BG free to return fire. With the .40 and .45, this seldom happens. Bone is in the body for basically two reasons--to give support as with the legs and spinal column and to protect major organs, such as the ribs protecting the heart or the skull protecting the brain. Skip a bullet off a support bone, such as the leg, and the BG will keep shooting. Break it, like you generally do with a .40 or .45, and the BG is going to hit the pavement and your chances of survival increase dramatically. It's the same with a shot to the chest. Skip a 9mm off the sternum (breastbone) and the fight continues; plow through the sternum with a .45 and, trust me, the fight is over. I'm just convinced that all things being equal, bigger is better when it comes to bullet size.

I also like bullets to expend all their energy in the body, not only for the protection of nearby civilians, but because I think it imparts more damage. I'm a bit less certain of this one, however, than I am about bullet size. Whether a bullet remains in the body is often as much a result of WHERE in the body it hit as what it was hit with. If hit solely in tissue, more often than not the bullet exits the body, regardless of what caliber it was; bone, on the other hand, can slow the bullet dramatically and leave it lodged in the body. As I said before, I once saw a .44 Magnum enter the skull point blank between the eyes and flatten and not exit on the inside of the skull on the back of the head. Amazing!

As for the .357 being a well-documented man-stopper, I'm guessing that you guys are right in assuming that it's mainly a function of velocity, but if someone wants to disagree I'll have no issue with it because it's a caliber we almost NEVER see anymore. When I was a cop in Atlanta it was the caliber of choice for law enforcement. Unfortunately, I only rarely got to see autopsies back then so I can't speak from vast experience. With the increasing use of semi-autos, the prevalence of revolver rounds such as the .38 and .357 has dropped dramatically, and although we still see the .38 with some frequency, we almost never get to see the .357 at autopsy. Still, in its most lethal form, it's a 125-grain bullet, the same as a 9mm in many cases, and the 9mm has a horrible reputation as a reliable man-stopper. Again, I'm only guessing that it's a function of the higher velocity of the .357. The .41 Magnum, for all its hype about being the next great law enforcement caliber, never came into widespread use and I can't remember ever digging one out at autopsy, so I'll leave this one alone. And almost without exception, the bullet weight I see most often with the .44 is the commercially-available 240 grains so I can't speak to anything besides that.

Remember, folks, that what I see on the autopsy table is most often BGs shooting BGs (sniff, sniff. Forgive me, my eyes are welling up with tears and I might have to continue this thread later. Ok, better now, so I'll continue) or, worse, BGs shooting good guys. In either case, BGs usually aren't students of ballistics, they aren't NRA members, they don't read Guns and Ammo, and they don't sit

down at the Dillon 550 at night cranking out some new handload they've read about. They buy commercially-available ammo and, occasionally, add some personal touches they've read about in the latest issue of Gangbanger Magazine, such as filling the cavity of the hollowpoint with mercury (Yes, I've seen it. Worked just like hardball.) or deeply scoring the nose of the bullet (worked just like frangible except that it came apart on the outside of the other BGs clothing, which is why we had this one on the autopsy table (sniff). That said, if we want to evaluate various bullet weights and designs that aren't available commercially, we're once again left with ballistic gelatin, and the more I see on the autopsy table, the less confidence I have in the results.

Finally, just a couple of answers to questions: First, Houston is mostly right in assuming that multiple rounds seen from the 9mm and .380 are from the higher magazine capacity and controllability of the two calibers. Again, however, much of it is due to the fact that these two calibers just aren't getting the job done before the other BG returns fire and sends our BG to gangbanger heaven. Yes, the shots were eventually lethal, but many times not immediately so. And, yes, they CAN BE an effective weapon IF placed in a lethal area and IF the bullet gets the job done once it gets there instead of skipping off in a non-lethal direction. My advice, however, is to get a larger caliber such as a .40 or .45, practice until you're comfortable with it, and use it as your carry gun, not the 9mm or .380. Practice will greatly reduce the first IF mentioned above, and a larger caliber will greatly reduce the other.

Please forgive the long-winded reply, but I guess it was still shorter than responding individually to each of you. As always, take what you can use, and if your opinion differs, well, that's what opinions are all about, isn't it? My guess is that this will generate other questions, such as which bullet I like and other questions about caliber, etc. If so, let me know and I'll try to get to them as soon as I can.

Jeez, this thing has taken on a life of its own and I'm wondering where to take it. Do you guys think we should continue the bullet end of things on the Ammunition forum? It seems like it might be a bit more appropriate there since this thing kind of morphed out of a CCW story.

Also, as has been mentioned, I've got a bit of a unique perspective here having been a cop and now working in a morgue, so I've seen it from both sides. I've also got some pretty strong opinions on practice (having done plenty of it as a cop) and what happens with a lack of it (poorly placed shots in police shootings). Should I air them here (or not at all, if you aren't interested) or move them to another forum. It just seems to me like the topic has changed enough that another forum might be more appropriate. Suggestions?

Ok, we'll keep it here, I guess. I suppose the next logical topic should be bullets--hollowpoints vs hardball vs other types. First, let me address a couple of quick questions that have come up. Regarding the questions that Bill h brings up regarding the .38 Special, it's a great question and one that's hard to answer. Had I been in this profession more during the transition from revolvers to semi-autos I would probably be better able to answer it. As it is now, about the only time we see the .38 (or any revolver round, for that matter) at autopsy is with a suicide. Often it's an elderly individual who has had a .38 in the nightstand for many years and only decides to use it to end their life. Almost without exception, the BGs are toting semi-autos with the 9mm, .380, and occasionally the .40 or .45. And, yes, I think the "spray and pray" mentality (gee, is that a misnomer) may well be responsible for the high number of poorly placed shots we see. It's kind of hard to hold the old Glock over the head and sideways, Gangsta style, and direct a shot with any kind of accuracy. Fortunately, the gangbangers don't know this or, if they do, do it anyway because it looks so cool. It makes sense that the limited number of rounds in a revolver might make one a bit more careful with a sight picture but I'm afraid that this is just speculation on my part. I cut my teeth with a single shot .22 where I had to make every shot count and that has carried over to any handgun I shoot today, be it

revolver or automatic. I have a hard time understanding the "spray and pray" approach.

Hollowpoints are really hard to get a handle on. From my experience, the limiting factor on the effectiveness of a hollowpoint is that the cavity can and often does get packed full of something besides tissue prior to entering the body, and this can inhibit expansion. Sheet rock is about the worst although heavy clothing can be a problem also. Once you cram the cavity full of anything but tissue, you've essentially got hardball. But then that's not necessarily bad either. With full expansion of a hollowpoint you've got to worry about the jacket separating from the core as well as weight retention. It's largely weight retention that allows the bullet to continue to blast through bone and reach those deep vital organs that will end the fight in a hurry, and hardball is well known for maintaining its weight at autopsy. Once a hollowpoint does what it's supposed to, it begins to lose weight, albeit in varying amounts depending on the construction of the bullet and what it hits along the way. Some retain weight well and others lose it rapidly as can be seen in the lead "snowstorm" often seen during x-ray. Some hollowpoints expand so rapidly and lose weight so quickly that they haul up short of reaching the vital organs.

I'm talking mainly about the .40 and .45 here, but a few words about the 9mm and .380 are in order. Since the weight of the bullet is a major factor in reaching the vital organs, why penalize yourself with 125 grains of 9mm when you can have 230 grains of .45? In other words, why start out light and have the bullet only get lighter as it passes through the body when you can start out heavy to begin with. Again, I know of the well-deserved reputation of the .357 Magnum with the 125-grain bullet, but I think this is probably more a function of velocity overcoming the limitations of a smaller bullet weight. But I have limited experience with the .357 so I may admittedly be off base here.

Also, and I may be going out on a limb here, I'm not altogether certain that hardball is necessarily a bad choice for the reasons given above. Look, folks, you don't have to blow the heart into a million pieces; you've just got to hit it, and you don't have to make the liver look like it just spent 10 minutes in a Cuisinart. Again, you've just got to hit it. All things being equal, yes, I'd rather have a properly expanded hollowpoint reach the same location as a hardball round since, for the most part, the hollowpoint will inflict more damage than hardball. But things aren't always equal. Unlike some hollowpoints, hardball generally has no problems feeding (as always, this is more a matter of knowing your gun and what it feeds reliably) and almost without exception it just plows along its merry way busting up whatever it comes into contact with. Hollowpoints, even the best of them, can do really strange things such as shedding the jacket, losing an inordinate amount of weight, or expanding so rapidly that they don't reach the vitals. I've seen it time and time again and many times I don't have an explanation for it. It's just empirical observation and something to think about.

I've only seen one example of Federal's Expanding Full Metal Jacket so I'm not qualified to speak with any authority on it except to say that the expansion was MOST impressive and it was a 1-shot kill. I've read other forums in which some in law enforcement made disparaging remarks about it, and one example is nothing I would want to hang my hat on, but I was impressed nevertheless. IF the EFMJ works as advertised, it would go a long way toward remedying the problems inherent with hollowpoints.

I'm sure there are some other questions here that have gone unanswered or more that will be generated. As always, this is just personal experience from seeing thousands of autopsies every year and may or may not conform to what you've read elsewhere. And if these posts are taking up too much of the forum, let me know.

Ok, let me give a few thoughts on shot placement. First, as j2k22 suggests, there's no shot that will

end the fight faster than a head shot. The brain is the center of the neurological system, and a shot there will end things immediately. The problem is that the head is very mobile and can be darting from side to side while the thorax stays still. A shot to the spine is also a very good choice, but the spine is probably no more than two inches wide and can be very hard to hit.

When all is said and done, go for the chest. Unless it's a child molester or rapist, however, in which case I plan to give him a .45 caliber vasectomy first so in the event I don't kill him with subsequent shots, at least he'll no longer be able to commit assault with a friendly weapon. The body remains relatively stable, while the legs, arms, and head can be moving from side to side. Trust me, when the BG is sending bullets in your direction and the adrenaline is pumping, it does very strange things to a sight picture, so you'll want to go for the biggest thing there is. On top of that, there are loads of really nice things to hit in the chest, any one of which will end the fight. There are plenty of arteries and large veins, bones that will prevent or inhibit the accurate firing of the weapon (e.g., shoulder blade, collarbone), or paralyze him (spine), and organs such as the lungs and heart that will shut down the BG if hit. And if you hit too low, you've also got a good chance of poking a hole in the liver, spleen, stomach, and other organs which, although they may not cause immediate death, may severely incapacitate the BG.

Remember, your goal in a gunfight is to incapacitate the BG to the point that his ability to fight ceases or he breaks off the engagement voluntarily. If you kill him, fine; if not, you want to wound him to the extent that he can no longer return fire effectively and you'll live to see another day. Depending on how fast you or someone else chooses to call 911, he may not (sniff). Sometimes simply breaking a leg of the BG will end the fight; sometimes not. Sometimes, simply the muzzle flash from a citizen the BG thought was unarmed will cause him to reconsider. As for me, I'm going for the chest.

And, yes, I followed Elmer Keith for years as well as Skeeter Skelton and others (I practically worshipped Jack O'Conner) and, yes, I think he's right on big, slow-moving bullets. As for Gold Dot, it's what I carry in my carry gun (.45, naturally), although if I can see some more examples of the Federal EFMJ I might switch to that. Many of our LE personnel are carrying Gold Dot as well as others carrying Federal HS. Of the two, I've come to like Gold Dot better. I don't know why but I've seen some really funky stuff with HS. When it works, it works great; when it doesn't it's pretty lame. In fact, some folks in my neck of the woods refer to it as Hydra Sucks, but I think that's taking it a bit far.

I hope this has answered some of the questions. If any others pop up that are generated by this post, let me know.

Ok, let's try to answer a few more questions that have popped up since I got back. Again, as has been seconded here, the .357 has a well-deserved reputation as a man stopper, and it seems to be regardless of what load is used from what I've seen. Unfortunately, we seldom get them anymore, but when we do it just confirms what others have said about its stopping power. Ah, if only all handgun calibers were this effective...

As for over penetration, yes, it's something to be concerned about but not overly so. I see bullets that pass through the body and are not recovered every day. I can only think of a very few times, though, when over penetration led to an unintended target being hit after passing through the BG, and even then the other person survived if I remember correctly. Keep in mind that most of the folks I see on an autopsy table weren't shot while going to prayer meeting, while watching an Atlanta Falcons game in the stadium, or during an AC/DC concert. BGs are opportunists, which means that they look for places where contact with civilians other than the intended victim is minimal and they can get

away without being identified. Sure, some occur in large gatherings and in plain view, but by far and large most involve a minimum of people. As a result, even if overpenetration occurs, more than likely the bullet will lodge in some inanimate object, not another civilian. I'll take my chances with a bullet that will get the job done rather than being unduly concerned with over penetration and selecting a bullet that is less detrimental to the BG's health and wellbeing.

Hydroshock is something I've never been quite sure of, at least with handgun bullets. Seeing the wound cavity in ballistic gelatin is really impressive, and the theory is that even if the bullet doesn't actually make contact with something vital, the shock wave created by the passage of the bullet will inflict its own damage. Maybe, maybe not. I can tell you that when one of the BGs comes in with multiple gunshot wounds it can be extremely difficult to determine the paths of each. We use steel probes to try to follow the path of each bullet in an attempt to determine the angle and trajectory of the wounds, and many times it's almost impossible. Unlike ballistic gelatin, the body is not translucent so the course of the bullet can't be seen. Also, unlike ballistic gelatin, which stays open allowing the damage to be analyzed, human tissue closes back up. Many times it comes down to making small scalpel slices along the wound path and trying to follow it that way. And from this I can safely say that I've never seen anything that approximates ballistic gelatin. Yes, there is damage along the course of the bullet, but usually it's due to the bullet itself, which is ripping tissue along the way and fragments of the jacket or core that are spalling off and creating their own trajectories incidental to the main path of the bullet. As I've said several time in other posts, I just don't believe that ballistic gelatin is a realistic representation of what actually happens, and I'm afraid that folks are placing their faith in a bullet that looks impressive in ballistic gelatin although the results are markedly different in the human body.

As for body armor, the idea of becoming proficient with the Mozambique drill is fabulous!!! Be ready to put one between the running lights if one is wearing body armor, but, again, this should be the exception. Of all the thousands of autopsies I've seen, I can't remember a single one that was wearing body armor. Still, it makes a good case for being flexible and ready to go to Plan B should your first round or two bounce off a Second Chance. And there's always the 44 minutes in L.A. to think about.

Now for rifles and shotguns. I'll say first that whenever possible use a shotgun. Doesn't matter if you're using 7.5 shot or 00 buck, use a shotgun! Trust me on this one! A spray of birdshot to the 'nads or the eyes can end a fight really quickly, and if the range is short enough a high concentration of even very small shot can make a really, really big hole. Also, you'd be surprised at how deeply small shot can penetrate at relatively long distances. And even if the distance is such that small shot will be ineffective, most BGs aren't willing to chance closing the distance to get a better shot once they know a shotgun is in use.

Barring shotguns, use a rifle. And like the shotgun, it doesn't make much difference which as long as it's bigger than a .22 rimfire. The other day I saw a head shot with a .204 Ruger that was just beyond belief! An itty bitty bullet moving at .220 Swift velocities (about 4100 fps) is most impressive when it fragments inside the noggin. I've seen just about all rifle calibers used at one time or another, and they were almost all impressive. Unlike handguns, rifles have the velocity to drive smaller, lighter bullets deeply into the body cavity. Expansion (and often fragmentation) is complete, and damage is magnified. Often, on x-ray a "lead snowstorm" is seen in which lead (and copper from the jacket) separates from the core and tracks tangentially from the main trajectory of the bullet. These can and often do inflict their own damage, such as opening arteries or lodging in vital organs that were completely missed by the main path of the bullet. Also, if hydroshock exists to the extent that it will cause significant damage, I think it's almost certainly with rifles, not handguns. I once saw a woman who committed suicide with a 7mm Magnum to the chest. Not only did it blow out the spine, it

turned the viscera in the chest cavity into mush. No matter what rifle or bullet you use on the BG, it will usually be more effective than your handgun.

In short, my first choice in almost all situations will be a shotgun, followed by a rifle, followed by a handgun.

After re-reading some of my previous posts on wound ballistics and how bullet weight and velocity affect wound characteristics, I'm not sure I did as good of a job of explaining it as I might have. Let me see if I can rephrase some of this stuff and reduce it to something useful (I hope). I'll try to keep the scientific end of things to a minimum, but some of it is necessary to get the gist of it. Anyway, the kinetic energy imparted by a bullet as it enters the body depends on two things--the weight of the bullet and the velocity at which it is traveling. Of the two, velocity is more important. Doubling the velocity quadruples the kinetic energy; doubling the bullet weight only doubles it.

When a bullet strikes tissue the kinetic energy begins to create a temporary cavity behind it, sort of like the videos you've seen of space capsules re-entering the atmosphere. Maximum expansion occurs some time after passage of the bullet (measured in milliseconds) and the diameter of the expansion depends largely on velocity (as well as tissue density and cohesiveness, but we've already touched on that), with higher velocities producing larger temporary cavities. The temporary cavity is extremely important in that it is largely responsible for producing injuries to arteries, veins, organs, and nerves that are not directly struck by the bullet or its fragments. In fact, it's possible for the bullet to strike nothing vital at all but still produce incapacitation or death by the temporary cavity that does.

Because of the relatively low velocity of most handgun projectiles, the temporary cavity produced is generally quite small, extending only a short distance into the surrounding tissues. With high velocity bullets, such as with rifles, the picture changes dramatically. Because of the quadrupling of kinetic energy, this temporary cavity is GREATLY enlarged and subsequent damage to surrounding nerves, tissues, blood vessels, and organs is GREATLY enhanced, and fractures to bones incidental to the temporary cavity can occur even without the bullet directly striking them.

So at what velocity does this increased (hence, more effective) temporary cavity occur? From what I've read (and confirmed on the autopsy table) this is around 2600-2900 fps. At these velocities the characteristics of the wound change from one with a minimal temporary cavity to one in which the temporary cavity increases dramatically.

As for the bullet exiting the body versus staying in the body, I read just yesterday that most ballistic experts now agree that my suspicions all along are correct. Although kinetic energy is determined by the weight and velocity of the bullet, wound damage is determined by the kinetic energy lost in the tissue. In other words, kinetic energy lost when the bullet exits is not imparted to the body; conversely, when a bullet remains in the body, all of its kinetic energy is spent doing damage to the tissue. So I guess that finding a bullet that is less likely to exit is bad for the BG who gets hit and good for the civilian standing behind him.

Ok, so where does this leave us? It sounds like we want a big bullet moving at high velocity that bleeds (no pun intended) off its kinetic energy so fast that it stays in the body rather than exiting. Also, the weapon that shoots it would have to be small in order to be concealable (after all, that's what the gist of this CCW forum is even though this thread has morphed far beyond that), controllable, and capable of firing multiple shots in rapid succession. Wonderful! Now all someone has to do is invent it because it certainly doesn't exist right now.



Like most things in life, everything is a tradeoff here. In order to get the much-needed high velocity necessary to produce a large temporary cavity we've got to opt for rounds commonly associated with rifles and somehow put them in a handgun. About the only ones I know of are things like the Thompson Centers or the Remington XP-100, and somehow neither of these would be very high on my list of self-defense weapons. Concealability aside, working the bolt of an XP-100 in a firefight just doesn't appeal to me. And if you think a snubie can be hard to hide in hot weather, try a Thompson Center. Even if it were possible to somehow shrink them to concealable size and produce multiple shots, how easy would it be to control a caliber designed for rifles but put in a handgun?

So we're back to handguns, when going out and about, aren't we? Ok, think back to the two things that control our all-important temporary cavity, i.e., bullet weight and velocity. In most handgun calibers that are designed for self-defense, we can't do a lot about velocity. We just can't get the velocity up to the all-critical 2600-2900 fps, so we're left with bullet weight. Again, doubling the bullet weight doubles the kinetic energy. So, do you still want to shoot that 125-grain 9mm when you could have a 230-grain .45?

Someone poses a question...

Master Deadmeat2,

Grasshopper is confused by this. Where does it leave or how does it explain the most-dreaded reputation of the 125 grain .357? Does that reputation hold up if fired from a 1 7/8" snub? Or the commonly carried .38 special +P launched from a 1 7/8" snub? According to [http://le.atk.com/pdf/SpeerTech38\\_135HP.pdf](http://le.atk.com/pdf/SpeerTech38_135HP.pdf) Speer Gold Dot .38's (135 grain bullet) fired from a S&W 640 1 7/8" barrel yields about 870 fps (which they compare with a 124 grain GDHP bullet from a Glock 19 with 4" barrel at about 1,200 fps).

I don't have velocity information for other bullets handy, but it would seem that to a CCW wheelgunner it would behoove one to compare their chosen caliber offerings for velocity from a barrel length as close as possible to what they carry, compared with the weight of the bullet, and look for the best combination of high velocity viz high bullet weight. I'm not sure what weight to give to bullet shape in this analysis, versus velocity and weight.

Steven Camp has done some of this and I'll have to re-read his and your postings. Pretty much he recommends 158-grain LSWCHP +P .38 special from a 1 7/8" snub revolver (Remington, Federal or Winchester) but the pages seem a bit dated. They are however EXCELLENT, easy to read and well illustrated. I highly recommend reading them. Hopefully they'll be updated soon.

<http://www.hipowersandhandguns.com/38vs357snub.htm> (although a 2 1/2" barrel was used for testing, not 1 7/8")

<http://www.hipowersandhandguns.com/38%20Special%20158gr%20LSWCHP.htm> (refers to but hasn't yet tested 135 gr GDHP)

<http://www.hipowersandhandguns.com/Feedingthe38Snub.htm>

Edited to Add:

I just found this information on Speer Gold Dot Short Barrel rounds on their website [http://le.atk.com/Interior.asp?section=2&page=pages/cci...ccispeer\\_GoldDot.asp](http://le.atk.com/Interior.asp?section=2&page=pages/cci...ccispeer_GoldDot.asp)

.357 125 gr short barrel is clocked at 1,000 fps from a 2" vented barrel. Here's some abbreviated muzzle velocity and 25 foot velocity in parenthesis info from the page on short barrel, with my calculation of % velocity retained at 25 feet:

- 9mm +P 124 gr 3.5" barrel 1150 fps (1089) 94.6%
- .38 Spcl +P 135 gr 2" vented barrel 860 fps (839) 97.5%
- .357 Mag 135 gr 2" vented barrel 1000 fps (966) 96.6%
- .40 S&W 180 gr 3.5" barrel 950 fps (922) 97.0%
- .44 Mag 200 gr 4" vented barrel 1075 fps (1031) 95.9%
- .45 ACP 230 gr 4" barrel 820 fps (801) 97.6%

I don't know why they used a vented barrel for some of the tests. I would guess that most users would not have vented barrels, and that velocities would be higher if tested in non-vented barrels (but so would recoil/muzzle flip).

Deadmeat2 answers the question:

Ah, Grasshopper, the answer is simple. Master just does not know! Again, we seldom ever see the .357 anymore despite its well-deserved reputation for stopping power, so for me to wax poetic on the meditations of its unexplained power would be ill-advised. And yes, Grasshopper, your insight on carrying what you practice with is well-taken. There are innumerable combinations of barrel length, vented vs. non-vented, bullet construction, bullet weight, velocity, etc. The trick is finding what works, which is easier said than done.

The .357 is a bit of an anomaly. Despite its relatively small bullet weight, it is known in defensive circles as a man-stopper. Yes, it's got a higher velocity than many other handgun calibers but not THAT much greater. But then, remember that increasing velocity results in a concomitant increase in kinetic energy, which then translates into a larger temporary cavity. Handgun bullets are just not going to come close to reaching the 2600-2900 fps needed for the maximum expansion of the temporary cavity, but ANY increase in velocity will increase kinetic energy. Maybe, then, the increase in velocity of the .357 is just enough to increase the temporary cavity to the point that it can often shut down human biological systems more often than other calibers. I just don't know.

I guess the bottom line here, at least from what I've seen on the autopsy table, is that it's a tradeoff of bullet weight for increased velocity. If I had some way of making the 2600-2900 fps in a handgun to ensure a huge temporary cavity, sure, I'd opt for it even at the expense of a lighter bullet. But we don't, and although increased velocity can be gained by reducing bullet size, it often comes at the expense of penetration for a modest gain in velocity (temporary cavity size). All too often I see bullets stop short of reaching vital organs because they shed weight before arriving there. I'll stay with heavy even to the extent of sacrificing some velocity.

Although we most often see the .380 and 9mm on the autopsy table, we've pretty well beaten these to death (no pun intended). Suffice it to say, I would never trust either caliber to save my life regardless of what round I carried in it. Why the government in its infinite wisdom ever switched from a proven man-stopper like the .45 to the 9mm will forever remain a mystery to me.

The .40 is another caliber we see quite often, mostly in police-related shootings, and the round carried has mostly been Federal HS or Gold Dots. Both have worked VERY well in most cases although the Gold Dot seems a bit more consistent. Remember, this isn't scientific but is based solely on observation. It has just seemed to me that HS occasionally does some funky stuff, mostly when the cavity gets crammed full of something besides the BG. Usually this just results in non-expansion of the bullet, but as we've said before this isn't always bad. The bullet just keeps chunking merrily along busting up whatever it hits. Gold Dot has always seemed to expand well, and I've seen several instances of cars being brought into the garage that have been shot full of Gold Dots during

shootouts. The Gold Dot rounds have done a marvelous job of penetrating doors and windshields before venting the BG (sniff). It's the round I carry in my own weapon.

Same with the .45. Although we see it less than the .40, it has a justifiable reputation of being able to put a stop to a gunfight VERY quickly. Again, we see it with Federal HS and Gold Dots, and both work VERY well. Of all the rounds I've seen that are 1-shot kills, it's the .45 that is the clear winner followed by the .40. It's also the caliber I carry.

Ah, the .44 Magnum. I've got 3 of these suckers and love 'em all. About the only time we see them in the morgue is during a suicide and, trust me, there's no such thing as an "attempted suicide" with a .44 Magnum. Regardless of bullet weight or design, they plow through bone and tissue with ease. As I mentioned in an earlier post, however, I did see a 230-grain hollowpoint touched off between the running lights flatten on the inside of the skull on the back of the head and not exit. I wouldn't have believed it if I hadn't seen it.

Most BGs shy away from the larger calibers like the .40, .45, and certainly the .44. They're hard to conceal and harder still to shoot effectively. Most BGs don't take the time to learn to shoot ANY firearm effectively let alone the harder to shoot larger calibers, and I doubt that many of them have ever gone to Gunsite or Thunder Ranch.

While we're on the topic of Gunsite and Thunder Ranch, allow me to vent one of my pet peeves, if you will. That pet peeve is having a cavalier attitude toward qualifying. Let me explain it this way: I go to an indoor range near my home almost every Friday, mostly to get ready for an IPSC match the following day or on Sunday. A few weeks ago I was at the range when a guy took the lane next to me and put up a 50-foot silhouette target. After some period of time he leaned over into my lane and asked, "How do I get this thing downrange?" "Try the switch on the side", I replied. He ran the target down to 10 yards and began blazing away with his Beretta 92. The holes appeared all over the paper, and the closest thing I could find to a group was whatever was defined by the margins of the paper.

Feeling comfortable that he was now in the ballpark, Bubba ran the target to 25 yards and began blazing away again. Half a box of ammo later he still hadn't poked a hole in the paper, much less the silhouette. He then left, purchased another box of ammo at the front counter, returned, and began firing away. About 20 or so shots later I began to see a few holes near the shirt cuff of the silhouette, and he never got closer to the x-ring than a foot or so. He packed up his gear and on his way out said to me, "I've got to qualify tomorrow and I can't shoot for (doodly squat)." "You're in deep doo doo, pal" I replied. Once he was gone I retrieved his target and counted 7 holes in the silhouette and 45 on the paper but not on the silhouette.

I have no idea what his occupation is. Maybe it's a policeman, maybe a security guard, but it's something that definitely requires him to carry a weapon frequently enough that he's required to qualify with it at least once a year. And if he's required to carry it it seems to me like he should take the time to become proficient with it. But Bubba's attitude toward qualifying was that it was something he had to do, not something he needed to learn to do.

In retrospect, I guess I should have taken him aside and said "Look, quit treating this like it's a test you have to pass in order to keep your job! Think of it as a skill that might keep you or me alive someday. Think of it as a skill that might keep your wife from becoming a widow or your kid from growing up without a father." It was obvious that he hadn't been to a range in a very long time, probably since the day before he had his last qualification, and he's unlikely to return until a year from now when he has to qualify again.

Folks, we can continue this thread until the next millennium and beat around calibers, bullet construction, velocity, muzzle flash, and a zillion other variables. Sooner or later you'll have to make up your mind on what you think works and carry it. When the dust settles and we've made up our minds on what we'll carry, I think we'd see that there won't be a consensus of opinion. The one thing I hope we'd agree on, however, is that the best man-stopper in the world is absolutely useless in the hands of someone who doesn't know how to use it effectively.

Make every trip to the range count. Learn to shoot effectively; learn to call your shots. Learn how fast and how effectively you can place that second and subsequent shots. For those of you with non-adjustable sights, learn which ammo places your shots closest to the x-ring. Learn proper trigger control and proper sight pictures. Learn how to reload quickly and effectively.

As for the guy next to me who had to qualify the following day, I sincerely hope he failed and now has a desk job somewhere. The very job of a cop often places them in situations in which this skill, one that he considered a mere job requirement, could save their lives or those of someone else. Conversely, poor shooting by a cop has been the cause of the death of more than one innocent bystander. Yes, this was a cop or someone who was required to carry a weapon, but it applies to all of us, civilian and law enforcement alike.

Remember, that visits to the range are generally no-stress situations. You're there to improve your marksmanship, and if you think it's hard to poke holes in an inanimate piece of paper at 25 yards, it's infinitely more difficult when 125-grain bullets are headed back in your direction from the perpetrator's gun, the stationary paper target becomes a moving BG, and your shooting position becomes vastly different than the one you habitually use at the range. In addition, as I think I've mentioned before, an adrenaline rush from a real-life combat situation does the most remarkable things to a sight picture. In short, if you can't place your shots on a non-moving piece of paper, how much more difficult will it be when that piece of paper becomes a 3-time felon whose sole purpose is to avoid going back to prison no matter what happens and no matter who gets in the way? Take your trips to the range seriously. Have fun, but take them seriously.

Maybe it's my law enforcement background or maybe it's having worked in the morgue for a number of years, but killing someone who is coming at me with intent to do me in is precisely what I want to do. For those who don't, that's fine, and I have no problem with it. We all make our own decisions and live (or die) with them. I was a witness at an execution by lethal injection last year and I have to say it didn't bother me a bit; I also think that killing someone who is intent on doing me bodily harm would have a similar effect. Having seen innumerable innocent civilians killed by BGs, I'll have to admit that an imperceptible smile crosses my face every time I see a BG supine on an autopsy table. I suspect the vast majority of law enforcement personnel feel similarly.

As for the .22, I agree with you that it's a poor choice of weapons and probably about the last one I would choose if given a choice of calibers. Still, it's a caliber we see quite frequently, and it might be good to know what damage it imparts. Discussing it is in no way an endorsement of it.

The reason it's such a poor choice of a defensive weapon by now should be obvious. If you think 125 grains of 9mm has little stopping power, try 40 grains of .22 long rifle. It has been my experience that hollowpoint .22 long rifle bullets fired from handguns seldom mushroom; when fired from rifles they usually do. Also, when fired from handguns both hollowpoints and solids are often recovered relatively intact and undeformed.

Like most revolver calibers, the .22 long rifle (I don't remember ever seeing a .22 short or long

although ratshot shows up from time to time) is most often seen at suicides. The ubiquitous .22, since it's the most commonly fired caliber in the US, is never in short supply, and many folks who own no other firearm own a .22. Most often the site of the wound is to the head, and penetration is almost always more than sufficient to get the job done. When fired from a rifle, often a "lead snowstorm" is created and shows up on the x-rays where the bullet fragments shortly after entering the skull. With body shots, either in defensive situations or suicides, multiple shots are usually required unless someone gets inordinately lucky and plants the bullet firmly in a vital organ. I've seen more than one example of someone who tried to commit suicide by emptying a cylinder into the chest and was forced to reload before completing the job with a shot to the head. As nvbirdman so rightly said, it has a well-deserved reputation as a very poor choice of defensive weapons.

Along these same lines, let me give a thought or two on pellet guns and bb guns. I can remember a number of deaths caused by these two weapons, one quite recently. In every case I can remember, the death was caused by a pellet or bb to the eye. The bone in the back of the eye is extremely thin and little is required to push a pellet or bb through it. Even worse, in the back of the orbit there's a small area where there's no bone at all and there's a direct path to the brain. For those of you with kids, be aware of this and, as always, preach safety to them.

I hope the previous post was taken in the spirit in which it was intended. For many, there seems to be a feeling of comfort imparted by carrying a defensive weapon regardless of how incompetent they are in using it. Unfortunately, these folks seem to have a habit of seeking out an autopsy table.

Someone poses a question:

DeadMeat, I have a question for you that has come up in some discussions. Due to the laws of some states not allowing the transportation and/or possession of a handgun or in some places any "firearm". The idea has been kicked around of carrying a flare gun. For the limited range that it most likely be used(1'-6').And since it is not recognized by the law as a "firearm", but as a signaling device it relieves the stress of legal problems. Have you ever seen a victim of or read a report medical or morgue of a person shot with a 12ga. flare pistol?

Someone else chimes in:

There was a pretty well known case among cruising sailors in the Bahamas. It made several of the magazines at the time back in the late '80s. A man and his wife in a remote anchorage where attacked by a group of three local problems. They announced what they were going to do to his wife after they killed him with their machetes. He responded to the first guy over the rail with a 25mm white phosphorus round to his face at a range of about three feet. Perp ended back in his own boat doing alot of screaming. White phosphorus can't be extinguished once it starts. 25 mm white markers burn for around 20 seconds and are very, very hot. His fleeing buddies dumped him on the beach where he expired after screaming for about 30 minutes. The couple had their property seized and where deported if I remember correctly.

Deadmeat2 replies:

No, I've never seen someone hit by a flare gun so I'm out of my element here. I did have a guy hit in the chest by a 'tater fired out of a potato gun, though. Seems he and his buddies were having an alcohol-fueled softball game when one of the guys produced a potato gun and bet the batter he couldn't hit a 'tater fired from it. Believe me, if you've ever seen how fast a spud comes out of one of these things you wouldn't have taken that bet! Anyway, batter up! Our batter was ready to do his best

imitation of Babe Ruth, but, unfortunately the pitcher's aim was a bit inside and hit our batter squarely in the chest with one of Idaho's finest. It broke about half the ribs on the left side and severed a few major blood vessels around the heart. Needless to say, he didn't get the walk to first.

When I started this thread a couple weeks ago my intent was just to relay a CCW story I had been involved in. Since then it has morphed into a lengthy discussion on calibers, bullets, velocity, wound characteristics, and other things. Also, judging from the number of views, it seems to have generated a fair amount of interest, due, I think, to a unique perspective of an ex-policeman and avid shooter working in a morgue. Please understand that I don't profess to be an expert in ballistics since I've had no formal training although I have been hunting and shooting for the better part of 50 years now. What I've been relaying are simply observations based on empirical evidence I see every day in the morgue, nothing more.

That said, I'm wondering where else to take this thread, if anywhere. If you guys want to let this wither on the vine here it's ok with me. If there are any other topics along these lines that might be of interest, we can continue it if you like. Suggestions?

You're right, it is a good question, but one I won't be able to answer, unfortunately. No, I've never seen a Glazer or MagSafe come through the morgue. Let me ask around a bit and see what I can find out. I got called out to south Georgia last night and will be gone through at least Wednesday and probably longer so it might be a few days before I can get back with you. Until then, if you guys can come up with some more questions like this one I'll try to answer them when I get back. I've already got questions on knives (trust me, leave 'em at home if you're expecting a gunfight although some folks still give them a try), assault weapons, and the .416 Rigby that I'll answer when I return.

Jeez, what a week! Just got back last night from south Georgia looking for a guy who was killed six years ago. I thought I'd be there for maybe three days but wound up spending six...and never did find him. I'll be heading back next Tuesday to implement Plan B for the search. I don't think it was that hot last year when I was in Thailand identifying the tsunami dead!

Anyway, yes, I've seen the 145-grain Silvertip at autopsy (as well as the more common 125-grain variety) and like all .357 wounds I've seen, it was really impressive. For the life of me I can't recall the details of shot placement or specific damage. I see so many gunshots at the morgue that I usually can't recall the specifics of individual cases except to form an opinion over time of what bullets and what calibers work and don't work. And, believe me, the .357 works! With any bullet style, with any powder charge. Carry it if you have it.

Oh, I do remember one from long ago that's interesting. I never got the whole story on it, but it seems a BG somehow got hold of some .357 handloads that used a 148-grain hollowbase wadcutter-inverted, no less. Talk about a hollowpoint! I don't know what velocity it was loaded at but from all indications it was really cooking and probably loaded the lands and grooves with lead as it traversed the barrel. Fortunately, he smoked the other BG (sniff) with one shot in the chest and didn't blow up the gun with a subsequent shot. When we dug it out at autopsy it was about the size of a quarter and was about as thick. That's one of only a handful of handloads that I've seen on the autopsy table but it was most memorable.

Let's see if I can get to a few other unanswered questions. First, knife fights vs. guns. If given the choice, take the gun, always the gun. Bringing a knife to a gunfight is almost always a poor choice but one we see occasionally in suicide-by-cop. In these cases, the BG almost always loses. Fortunately, the Tueller Rule is (hopefully) now taught in virtually every law enforcement academy

and distances between the cop and the BG that were widely perceived to be safe at one time are now considered well within the danger zone. By the way, there's a really good re-evaluation of the Tueller Rule at [www.usadojo.com/martial-arts-articles/article-21-feet-valid.htm](http://www.usadojo.com/martial-arts-articles/article-21-feet-valid.htm). It's well worth reading and serves to emphasize that a knife-wielding BG can be a formidable adversary and may well justify lengthening the 21-foot rule. Reading the article can explain it better than I can.

Oh, and, no, we don't have the plastic injection method to determine the blade length, blade shape, and number of serrations that you see on CSI. Jeez, that just cracks me up!!! On CSI, they'll take a syringe filled with some kind of liquid plastic, inject it into the knife wound, wait for it to set up, remove it, and then analyze the mold to determine the length of the blade used and whether it was single-edged or double-edged. Ah, if it were only so my job would be so much easier.

At the risk of morphing this thread even further than it's already been morphed from the CCW topic, I'll answer the question on smell and then maybe get back to the .416 Rigby, assault rifles, etc. To be honest, the smell is something you accept as part of the job but never quite get used to regardless of how long you're around it. Actually, in my job I get the best of the best and the worst of the worst. For the most part, the skeletal material I deal with has little if any smell. Unfortunately, I also get the badly decomposed bodies that the ME can do little with because of the extent of decomposition. I had one in the other day that had more maggots than you could take out in a 5-gallon bucket, but it just comes with the job. Yes, they all stink, some more than others, but you learn to deal with it.

Frequently, we see folks come into the morgue to observe autopsies and put Vicks Vaporub beneath their nose. Now think about it. What's the purpose of Vaporub? To open the sinus passages and help breathing, right? If you're there to observe an autopsy of a decomposed person, is opening the sinuses really what you want to do? I don't know where this one got started, but like most things psychosomatic, if you think it works it does.

The next question that will come up will probably be how do I get used to working around death? The long and short answer is that I just don't know. Not to sound cavalier about it, but I honestly NEVER think about it. Sure, if I thought about it long enough I could envision someone on the autopsy table as someone's mother, father, brother, sister, or dear friend. I could wonder what this person was like in real life and whether I would have liked to have known them. But I never do. In some way I don't understand, I'm able to divorce myself from the personalization of it all and carry on in a clinical, detached manner that allows me to analyze the skeletal material to determine the biological profile, trauma, and, hopefully, identification.

I can think of only once when it bothered me, and that was more from personal effects than human remains themselves. I worked in Kosovo excavating mass graves and again for eight months in Bosnia doing the same thing. In Bosnia in particular, we often had mass graves that contained well over 200 individuals, women and children included. While excavating one mass grave I came across a Seiko watch that was nearly identical to one my wife gave me shortly after we were married and which I wore until a couple years ago. Since we're now coming up on our 34th wedding anniversary, I guess I wore it for about 30 of those years and it remains one of my most prized possessions. In a poor country like Bosnia, a Seiko watch would be considered a large investment and was probably given at a special occasion such as a wedding or birthday. Upon seeing this watch I'll have to admit that I nearly lost it and had to walk away for about 15 minutes until it was collected as evidence and was out of sight. To this day I can still see the date and time on that watch.

As for my wife, I NEVER tell her the specifics of what I do. She's particularly sensitive to these kinds of things and would conjure up images of dead and mangled bodies in her dreams and during her work day. When I was in Thailand last year identifying the tsunami dead I would call home and

tell her, "Yes, I worked in the morgue today. Sure is hot here but the beaches are beautiful and the guy at the motel bar makes a great margarita!" End of story.

There's no middle of the road on what I do. You can either do it or you can't. For those of us who can, I don't think I've ever heard a good explanation of HOW we're able to deal with it when others can't.

Forgive the departure from the CCW format, but that seems to be the nature of this thread. Beyond my original post, I can't remember any post that's even remotely related to CCW, and now it seems we've even deviated well beyond the bullet, velocity, trauma theme. If this is getting too far a field, let me know.

Just got back from another three days in the garden spot of the world--the middle of a peanut patch in the middle of south Georgia so I haven't had a chance to catch up on the unanswered questions but will try to do so over the weekend if I'm lucky enough to not get called out of town. Apparently in my absence my avatar took a hike, offended no doubt, by the graphic descriptions of the autopsies. I'm searching all the previous haunts now. Anyway, Plan B failed miserably and now I'm contemplating Plan C, whatever that will be. No, I haven't forgotten about the .32 and I'll send you the directions on some indoor ranges in the Rome area as well as get to some of the assault rifle stuff. As for the Vicks, it was in use long before The Silence of the Lambs came out.

As for funny decomp stories, here's one. We had just finished autopsying a floater in a very small morgue. For some reason, there's almost nothing that's worse than a floater, and this guy was about the color of the Incredible Hulk when he gets POed. The first scalpel cut into him cleared the autopsy room and we came back several minutes later, dressed in Tyvek suits over our street clothes.

Following autopsy, we shucked the Tyveks and went to Mickey D's for lunch. After getting our lunches we took a table near the front counter and were followed shortly thereafter by two other guys who took seats at a table near ours. Shortly after sitting down I noticed one of the guys wrinkling his nose and bending over looking under the table. He kept this up for a minute or so before walking to the front counter and asking for a manager. Being as close as we were, I couldn't help but overhear the conversation. As the manager walked back to the table with the customer I heard him say, "Man, I don't know if someone's thrown a dirty diaper under one of the tables of if something died in here, but this area STINKS!!!!!!!!!!"

Only then did it dawn on me that it was US! The Tyvek kept off the decomp fluids but did nothing to keep the stink off the clothes. By the time we walked out, most of the patrons were looking at us with disgust wondering, probably, where we had parked the garbage truck. Lesson learned. After that, it was scrubs.

Desperado,

So you live in Chickamauga? Great place and a beautiful part of the world! And you'll also love Rome. My introduction to Chickamauga was in February 2002. I had just gotten back from eight months in Bosnia when I got called in from Knoxville to work the infamous Tri-State Crematory incident. The job fell to me because in addition to the remains that were found in the warehouse, in vaults, and in caskets in the back 40, there were numerous mass graves, and no one had ever worked one but me. I worked Tri-State by day and spent the nights for the next two weeks in a motel in Chickamauga.

Bill A,



You've probably guessed my opinion of the .32 S&W Long by now, but I'll proffer it anyway. In short, I don't like it for self-defense. IMHO, it just doesn't have the oomph to do what a defensive round it supposed to do, and I lump it in the same class with the much-hated (at least by me) 9mm and .380. Actually, with the exception of the .357 (Magnum and Sig), I can't think of any rounds that start with a number smaller than 4 following the decimal point that I would trust my life with. I like the .40 and the .45 better still when it comes to a defensive caliber. And think about it. Of all the countless articles you've undoubtedly read on which rounds and calibers to rely on for self-defense, have you ever seen one advocating the .32 S&W Long? I'm reasonably sure I haven't.

Now for the .416 Rigby tale. Actually, I've seen two of them used, albeit in different ways. Many years ago when I was a cop I got a call of a suicide. It turns out that this guy had a extensive gun collection, one of which was a .416 Rigby. For some reason that I don't remember, things had gotten bad and he decided to end it all with a bullet to the chest. Needless to say, the bullet went through him without slowing down, punched a hole in the ceiling, and blew a hole through the roof before achieving orbit around the earth. On the other side of things, the recoil blasted the butt of the gun off the floor and punched the stock about halfway through his TV set. Elvis would have been proud. Both the entrance and exit wounds were remarkably small, but I didn't get to see the autopsy so I can't report on what it did to the innards.

Also, while I was a cop there was a gun store, the name of which escapes me, that specialized only in high-dollar classic guns, such as L.C. Smiths, H&H, big African doubles, and the like. One night this gun store was burglarized, and the thieves got away with some really expensive guns. Several months later a local convenience store was robbed at gunpoint and the perpetrators were caught shortly thereafter. As it turned out, the gun held on the proprietor was one of the guns taken in the burglary--a .416 Rigby that the thieves had sawed the barrel down to 18 inches. As I remember it, they didn't have any ammo for it, but somehow looking down the bore of the thing was more than enough to convince the clerk to hand over the money, which was on the order of \$100. There's no telling what the gun itself was worth before these candidates for MENSA sawed it off, but I can assure you it was worth far in excess of their take. As my favorite saying goes, "Against stupidity, the gods themselves fight unvictorious."

Yes, I've seen the .32 a number of times at autopsy and was underwhelmed. Use it for targets; leave it for self-defense.

Many thanks to those of you in this thread who have encouraged me to write a book. In fact, I'm doing just that as time permits which, of late, hasn't been much due extensive travel associated with my job. At the rate it's going we'll all be dead and gone before the first draft ever makes it to the publisher. Although some of it will undoubtedly include things I've seen in the morgue, most of it will be about forensic cases I've worked throughout the state and about working mass graves in Bosnia, Kosovo, and the Tri-State Crematory, as well as identifying the tsunami dead in Thailand.

My wife has been encouraging me to write a book for years. Her thinking is that because of my previous law enforcement background as well as the fact that I'm engaged in a job that very, very few people have, I owe it to law enforcement and the public to share my experiences. But I've always put it off. Somehow, it's more enjoyable to shoot a Steel Challenge match on Saturday (like I'm doing today), an IPSC match on the Sunday (like I'm doing tomorrow), or crank out some rounds on the Dillon 550 in the evening (like I did last night), than to sit down and write after a long day at work. Still, I'm doing a lot of lecturing throughout the country these days, both to law enforcement and the public at large, and because of the current infatuation with forensics and the uniqueness of my job, everywhere I go I'm asked when I'm going to publish. I guess the time has come to take some of the PowerPoint presentations I give and begin to shape them into a book.

Please forgive this interruption of the thread, but in addition to the encouragement I've received in this thread, I've also gotten e-mails from some of you asking the same thing and I just wanted to clear it up.

Someone else posted:

I am asking here, in response to a question I read in the Reload Forum .... Would a .44 magnum, 180 grain bullet, at 1400 fps give better results than the hot Federal 125 grain .357 magnum ? Or, is the result similar to the .416 Rigby ?

That's a good question, Hook686, and not one I'm sure I can answer with certainty. First, muzzle velocity on both the .357 and .44 with the bullets you named will be around 1400 fps, give or take a little. Since velocity quadruples kinetic energy, it goes as a tie. Bullet weight, however, is greater with the .44, and since bullet weight is the second factor in kinetic energy, the nod would have to go to the .44.

But there are other factors, namely whether it expends all its energy in the body or goes zipping through to expend it in some inanimate (hopefully!) object behind the BG. I'll have to confess that I've seen few instances of the .44 in the morgue, but when I have, with one exception, the bullet exited the body and was not recovered. That means that much of the energy was lost because of overpenetration. Most of the .357 bullets I've seen have remained in the body, meaning they expended all their energy in the BG (sniff). This is where we want the energy to be lost, not digging a divot in the pavement or poking a hole in granny's mailbox.

And then there's the issue of controllability. Dirty Harry's one-handed shooting notwithstanding, most of us just aren't good enough to get off that often-needed second shot from a .44 with any kind of accuracy, at least not in the time we need to be able to do it effectively. The .357 is more easily controlled and therefore a better option for self-defense, I think.

In this case and with these two calibers, at least, I think the nod would go to the .357. Remember, at only 1400 fps, the temporary cavity is going to be quite small regardless of bullet size or design and the weight of the .357 is about 70% of the weight of the .44, which, although significant, is not THAT much lighter.

In my opinion (and as with all things I've voiced in this thread it's only that--an opinion) I think the .357 would be a better choice for self-defense. It's more controllable than the .44, the rounds typically do not exit, meaning ALL the kinetic energy is expended in the BG instead of only part of it, and its reputation as a man-stopper is well-known.

Amputator,

Like you, I've read innumerable reports on which calibers and which bullets are most effective for self-defense and come away totally confused. I can't tell you how many times I've read reports such as a 1-shot kill by a .22 to the gut while a similarly-placed .40 was completely ineffective. What the reports don't tell you is that autopsy it was learned that the .22 that sent our BG to the Promised Land just managed to nick the 12th rib and was deflected upward into the ascending aorta or the right ventricle of the heart and that the .40 missed the 12th rib by 2mm and exited without hitting anything vital. Was this stroke of luck mentioned in the report? No. Did it have anything to do with the bullet or caliber? No. Did the author draw the conclusion that the .40 is therefore ineffective? Quite possibly.

And this is where I think observations from the morgue are so important. As I've mentioned before, day in and day out I get to see what works and what doesn't and why. I've learned that multiple layers of winter clothing can slow the bullet to the point that a well-placed shot won't reach the vital organs (it isn't Kevlar, folks, but it can be marvelously effective). In the shooting reports you've read, is the season of the year ever mentioned? Rarely if ever. Only in the morgue can we see which bullets tend to skip off of bone and exit the body without causing significant damage and which break bone and plow into the vitals. Only in the morgue can we see the effects of a 1-shot kill because it was placed in the central nervous system versus multiple shots to other organs.

Let me assure you that there's a lot of poor information and mis-information out there, much of which is being used by the public to determine which calibers and rounds they'll carry for self-defense. Let me give you two examples: Despite the hype and negative publicity given the Black Talon by our liberal media, in my opinion and the opinions of most pathologists I work with, I find it no more effective than any other hollowpoint. In fact, the Black Talon that ventilated our BG (sniff) is at least as dangerous to those doing the autopsy as it was to him because of the sharp projections on the jacket. Is it effective? Absolutely, but it's not to the extent that it has been portrayed. Also, I occasionally hear the statement that a guy hit in the hand with a .45 will be instantly knocked off his feet. I can assure you that this myth didn't start in the morgue, yet it seems to persist. Sounds like a good project for the TV program Myth Busters. Volunteers?

Because of my job I not only get to see what works but I also have to keep up with current literature regarding new bullets and calibers so that I'll recognize them at autopsy. I have to read books that talk about sectional density, fluid pressure, yield tests, and drag coefficient and their presumed effect on bullet performance (and to you insomniacs out there, let me suggest that you read one of these books at bedtime. Beats Tylenol PM every time and it most certainly isn't habit forming). Some of this stuff seems to make sense at autopsy, some is utter hogwash, and some I just don't know about. Even my Ph.D. won't let me make sense of some of the physics touted in these books.

Being the pragmatic sort that I am, just let me see what works and what doesn't and skip the physics needed to get there. And I get to do just that every day in my job.

Yeah, the Black Talons can present real problems for those of us who work in the morgue, more for the pathologists than for me. They get the ones that are fresh and recently dead. I mainly get the skeletal remains and the ones that are so decomposed that the ME can't do much with them. The fresh ones are often IV drug users, crackheads, prostitutes, and gangbangers that often have hepatitis, HIV, TB, or some other variant of nasty cooties that have taken up residence in their bloodstream. A nicked finger through a nitrile glove while fishing for a Black Talon can present real problems for the pathologist. By the time I get 'em, most everything virulent has long since croaked. Contrary to what you frequently read or hear about in the news, there just isn't a whole lot of stuff you can catch from a decomposing body.

And, yes, Black Talons are exceedingly sharp and have to be recovered with caution. Problem is, that prior to autopsy we seldom have any idea of what bullet to expect, and often not even the caliber. But then a fragmented jacket from almost any round usually has some sharp edges and corners and can present the same problem.

As for the .500, no, I haven't seen it on the autopsy table and don't expect to. Remember, most of the guns of this size are in the hands of law abiding gun owners, not gangbangers. Gangbangers are usually of the previously-mentioned "spray and pray" philosophy, meaning they want something like a 9mm or .380 that they can shoot rapidly (somehow, shot placement takes a back seat to unloading the magazine as rapidly as possible for these guys), and the .500 just isn't a gun to be shot rapidly.

OK - this may sound stupid and naive, but can't you use a metal detector to help locate fragments?

The problem isn't locating the bullet fragments because they show up easily on x-rays. The problem is trying to remove the darn things without butchering the all-important wound track. We try to remove fragments of the core and jacket whenever we can in order to preserve evidence for later prosecution, and sometimes the only way to find them is to probe the bullet track with the fingers, which can be a bit dangerous in the case of Black Talons.

DM2, thank you for taking the time to post your info on this thread. I have a question about the 9mm. I carry the Winchester Ranger 127 grain +P+ in my G17. This load is chronoed at 1265 fps. It isn't giving up much to the 357 magnum. Have you seen any of these and if not how do you think they would do? Also, what about the 357 Sig; it is basically the 357 mag in an auto. Thanks!

I haven't seen the 127-grain +P Ranger come across the autopsy table so in all fairness I can't comment on it. Granted, velocity-wise it's pretty similar to the .357 and with the 127-grain bullet they seem to be about the same here also. But as I've said in many posts on this thread I just don't trust the 9mm for self-defense. The .357 Magnum and the .357 Sig, yes, but not the 9mm. No, I haven't seen the .357 Sig at autopsy but from all accounts it's pretty much a semi-auto version of the notoriously deadly .357 Magnum.

In the next two posts I'm going to bounce off a couple of things I've seen that can throw a wrench in this discussion of bullet types, calibers, and shot placement. One I've seen mentioned anecdotally from time to time in reports of shootings and the other I seldom if ever have.

We've already talked about physiological factors required to end a fight. Suffice it to say that the best of all worlds is a hit to the central nervous system. A hit to the brain or upper spinal column ends the fight then and there, be it from a bb gun or a .600 Nitro Express. That's the good news. The bad news, as we've talked about earlier, is that these two areas are among the hardest to hit and aren't real high on the list of areas we should be aiming at to end a gunfight. It's the chest area that should be our focus since it's loaded with high-value goodies that can end the fight quickly, if not immediately.

But in addition to physiological factors, we've also got a psychological component to consider. That is, what's the state of mind of the assailant and how determined is he to continue the fight once the bullets start flying? For you students of the Hatcher Formula, you'll know that this is not a new concept. I'll try to summarize Hatcher's thoughts here, taking a bit of poetic license from my own experience in the morgue.

First, there's the assailant who, when the rounds start flying, suddenly remembers an appointment with his dentist to have a couple of root canals done. To quote Hatcher, he has "no stomach for the fight, or who has no expectation of trouble and is taken by surprise." He will "quit at the first sign of trouble, and any wound, however slight, will put him out of the fight." There are documented cases of assailants fainting at the first sound of gunfire even though they were not hit. These are the BGs we all hope to encounter.

The second group is pretty much what we've come to expect from this lengthy discussion. The gunfight starts, the adrenaline is pumping, and there's an ongoing assessment of the situation. If a wound is slight, the gunfight may continue. If it's significant, self-preservation usually takes over and the assailant seeks medical attention or at least breaks off the conflict in the hope of doing so. This is pretty much the normal reaction.

The third group is the assailant who is determined to kill you regardless of the consequences. Often they are enraged, drug-ridden, or simply mentally disturbed, and self-preservation takes a back seat to their all-important purpose of killing you. Of the three groups, these are the ones we most have to worry about. Cumulative, well-placed shots in the torso of these folks may well kill but not immediately, leaving them time to return fire.

Group One I've never seen because they never make it to the autopsy table. They live to fight another day or suddenly decide that going back to their mundane job is a bit safer than a life of crime. Group Two is what we see most often. Group Three, although I don't see it a lot, really scares me. More often than not this involves police shootings, often of the deranged or inordinately determined criminal, or one involving suicide by cop. Often these are people who, at least in their minds, have nothing to lose and are determined that the fight ends then and there and either they or their victim will die in the process. Many times multiple, well-placed hits, although not ineffective, do not prevent the attack from continuing well beyond what would have stopped a person from Group One or Group Two.

You'll notice that psychological factors are independent of caliber. The sound of a .22 may cause Group One to flee in abject terror. Likewise, a significant wound from any caliber may cause Group Two to reassess the situation, and Group Three will likely continue the fight regardless of what the BG is being shot with.

I'll post the second part of this later and tie the two together with a third post at a later time. After the next post you'll probably see where I'm going with this and hopefully it will provide some food for thought. That's the good thing about working in a morgue. The things I see from day to day give me pause for thought, not only about weapons but about tactics and equipment, which is where this is headed.

Deadmeat,

if you were to carry a 9mm, wouldn't you say that the 127 grain +P+ Ranger would be THE load? A deer doesn't know the difference between a .260 or a 7mm-08. I don't think a person would notice the 100 fps slower 9mm. Just my opinion and no flame (disrespect) intended.

In theory I would agree with you; in reality I just don't know. Remember, our BGs don't sit around reading Gun Tests or some other magazine that evaluates ammo, and more often than not we never find out exactly what the BG was shot with except perhaps brand and caliber (and often not even that). So it's possible that I've seen 127-grain +P Ranger and not even known it, but I think it's more likely that it's never come across on the table. Usually what we dig out is whatever was on sale at Wally World the day our BG decided to take some of his hard-earned drug money to buy some ammo, not what he decided to

Someone else posted:

This whole business of what caliber/bullet/load to carry for self-defense has been talked to death (pun intended) but that never stops me from joining in and offering my 2 cents worth. I always like to ask people about their expectations during a criminal attack. Do you expect to be attacked by 5' 4" 110LB 75 year old Mrs. Jones with her "attack umbrella"? Hey, stick that pellet gun in your belt and be on your way? Perhaps, like me, you think it much more likely you'll be set upon by 6' 12" 325LB Louie Packaload who just got paroled from the state pen (assault on a police officer and possession of a big fat bag of crack) and who comes equipped with a big knife and a fresh load of heroine, PCP, or meth (or some combination of the three with a few shots of Jack Danials thrown in) pumped into

his arm. Uh oh, did I bring the .380 or the .44 mag? Maybe its winter time and Louie is well dressed with a heavy leather jacket, a sweater, and a heavy flannel shirt. Now, whatta YOU want to be pack'n? Hey, shoot me with a 9mm +P+ and I'm on my ass in a heartbeat. Shoot Louie with the same load and you've got one pissed off ex-con to deal with. Friends, I'm a big believer in safety margins and there isn't much of a bigger margin with a handgun) than a 200-240 gr. JHP clipping along at 1200+ fps and to hell with "overpenetration" I wanna win and I wanna stay alive. You pays yer money and you makes yer choices.

Well, you're both right. All things considered I'd rather have a head shot regardless of caliber than a body shot with a hand cannon. But I, for one, just don't consider myself good enough to do it consistently so I'm directing my bullets toward the chest. For those of you who can consistently hit the head under combat conditions, more power to you.

And Dusty Miller is exactly right. It isn't going to be a Michael Jackson or Pee Wee Herman look-alike who holds you up at gunpoint. More than likely it's going to be some drugged-ridden, bulked up, 5-time ex-con who makes Arnold Schwarzenegger look like the runt of the litter. And for him I want the absolute biggest caliber and bullet I can control and fire effectively and quickly. And there's no such thing as a margin of safety too large as long as I can handle it.

Yes, the 127-grain Ranger +P might do the job effectively. Or it might not. As Dusty Miller says, the margin of safety is just way too small for comfort for me. If you can learn to shoot the 9mm effectively, how much harder would it be to learn to shoot the .40 or .45? Probably not much, and believe me they're both effective with any load.

I guess the bottom line for me is that I've NEVER failed to see a .40 or .45 get the job done. I can't say the same about the 9mm.

By now you've probably figured out that I don't like the 9mm for self-defense with any bullet. I'm a big fan of the .45 followed by the .40. I'm not intentionally avoiding your questions but the answer to them will become clear after the next post or two if I can stay in town long enough to get it cranked out.

Someone else posted:

This is getting ridiculous. Being shot 12 times in the chest with 9mm ammo and feeling "tired" is very interesting. Not knowing you are shot means neural pain pathways are not working and he needs treatment because he probably has an auto-immune disorder. The 45 is in no way vastly superior to the 9mm. Just look at the physics and biology of a man. Plus, the blood loss from 12 9mm holes would cause death in a matter of minutes. All I am saying is if the 9mm is so poor, the 45 is not going to be much better. If you think it is so much better, what about it makes it so vastly superior to the 9mm? Let me say, that I have no love for the 9mm, I just think it is a good caliber and a disservice to people to mislead them into thinking the 9mm is weak or "for their wives."

Your points are well taken, Patton21, and I agree with you to a point. But there's method in my madness and if you'll bear with me for a bit longer I'll try to explain (but not try to convince) you why I believe the .40 and .45 are superior to the 9mm. You're absolutely right in believing there's no magic bullet and no magic caliber.

As has been stated before, I'm not schooled in ballistics and I make no assumptions that require that I be. I'm only stating what I've seen in the morgue, which I consider to be the finest university of self-

defense. I'm far from an expert in ballistics, but having been a cop for seven years, a hunter and avid handgunner for half a century, and having seen thousands of autopsies gives me a unique perspective.

I'm only stating what I've seen, not what I've read about. Bear with me a bit longer, follow the posts, and make your own decisions at the end of it all.

Ok, if you think the psychological factor threw a wrench into the equation think about this one. You've just put three well-placed shots in the chest of some thug who was trying to do the same thing to you--and he stays in the fray! What happened to these well-placed shots that were supposed to end the fight? Enter the luck factor.

Even though our goodie-packed thoracic area is what we should be aiming at, there's no guarantee that the vital organs contained therein will be hit. Hence, the luck factor. The temporary cavity of almost any self-defense handgun round is so small that it will pretty much take a direct hit from the bullet itself to bring about the much-desired damage. Believe it or not, there's a fair amount of dead space (uh, let me rephrase that, non-vital space) in the chest that will allow a bullet to penetrate and exit without striking something vital. We see it from time to time and it's the main reason that it's tactically advantageous to continue firing until the BG is either headed to Gangbanger Heaven or he's shot so full of holes that he probably will be shortly. The more rounds that hit the chest the better the odds are that at least one of them will hit something that will cause incapacitation.

Where I'm going with this should be obvious by now, particularly after the posts on the psychological factor and now the luck factor. Ok, you've just been attacked by some thug who's high on meth, needs your money for another fix, has just gotten out of prison and is determined not to go back. He stands 6'8" tall, weighs 350 pounds and it's pure muscle. You've just put three rounds into his chest to no effect and three others have missed. He's still coming, madder than ever. You do have your speedloaders with you, don't you? Or, if it's a semi-auto, please tell me you always carry a spare magazine! Surely you wouldn't go out with only the ammo that's in the weapon! Or would you?

Someone else posted:

Interesting thread. I am not sure I agree with some of the conclusions though, and based upon my own experiences and research I tend to believe that a good 9mm is about the same as a good .40 or .45 or .38 or .357. But I am always open to learning.

The "which is best" discussions seem to largely ignore issues such as gun weight, size, recoil, barrel length, bullet choice, shot placement, etc. Dirty Harry notwithstanding, most armed citizens and non-uniform cops have to deal with real-world weight and size issues that make a 9mm appealing. I also can't help but wonder about anecdotal stories when the stories seem to defy common sense.

A 200 lb man is going to be substantially more affected by a .40 projectile weighing 165 gr than he is by a .35 projectile weighing 127 gr. and traveling at a similar velocity? Why?

A 9mm traveling at 1000 fps and weighing 124 gr is going to penetrate more than a .40 155 gr. bullet at about the same velocity? Why?

A 124 gr 9mm bullet traveling at about the same velocity as a 125 gr. .357 magnum is less effective?

The .357 is better than the .45 but a 9mm with similar properties as the .357 is much worse?

Help me out here.

I also am having trouble reconciling a few things:

- 1. The most common gunshot wounds DM2 sees are from .380 and 9mm.
- 2. He works in a morgue so these are all deaths.
- 3. Therefore, he sees more people killed with .380 and 9mm than any other caliber.
- 4. But the .380 and 9mm are ineffective as defense calibers?

(I understand that there is a difference between "stopping" someone and killing them, but this whole thread is about dead folks, not "stopped" folks)

Maybe more people shot with the .45 survive? Or are a lot less people shot with the .45? If so, what does that say about the validity of the conclusions?

I have first hand knowledge of a triple homicide in which the victims were each shot once with a .25 and stopped in their tracks. Do I carry a .25? No.

Why does DM2 say the 9mm is a bad choice? I can't discern the reason from the data. If it that they didn't expire quickly enough, fine, tell me more. Is it that when they come in they are accompanied by another dead guy, whom they shot after first being hit? Great, tell me more.

If it is just the fact that the deceased often have multiple injuries, does that mean the first round failed? Does it mean the first round didn't work? Or does it mean these calibers allow follow-up shots that are harder to accomplish with larger calibers? Or does it mean they were killed by some whacko who just kept shooting? Are the multiple shots well-placed? Tell me more. What are the comparisons? If you have, say, three times as many 9mm shootings as .45 shootings you would expect to see a lot more weird results. What are the statistics?

If you have 40 shootings with a .45 and 50 with a 9mm and 7 out of 10 of the .45 shootings were one shot "kills" that might tell me something, but I don't find that here.

I assume these are mostly killings by bad guys. What ammo did they use? FMJ? Where were the rounds placed? Just guessing here that if you randomly looked at 100 shootings with a 9mm and 100 shootings with a .40, both by average citizens or bad guys, you would find a higher percentage of old-style hollow points, fmj ammo and other less-than-ideal rounds in 9mm than you would in the newer .40. Does this factor in?

If I remember correctly, Atlanta P.D. went to the .40 a couple of years ago. How many of their shootings factor into this? One would assume they are using top-rated ammo and have a better record of well-placed shots.

Does this factor in?

What is wrong with the 9mm? Is it lack of penetration or lack of expansion, or what? Do the victims just not respect it and suffer less?

I don't think there is much value in factoring suicides into this. In my comparatively limited experience, a suicide via gun is going to be a contact wound to the head/face or to the chest, and can't be compared to a non-suicide. Same with an execution-style shooting.



I'm not saying DM2 is wrong, and I am not questioning his honesty or good intentions, just wondering about the data. I have no quibble with his caliber choice but I gather some people are thinking of switching calibers or ammo based on this thread. Fine, but does the data back up the conclusions?

I have heard the stories over the years about people being shot 10, 20, 30 times with a 9mm and barely noticing. Frankly, I don't buy these stories. I got shot by a .25. it did little damage, but I did notice. I also have first-hand experience with people getting shot with .38, .357, .44, .22 .25, 9mm and .223 rounds and have seen some interesting responses from those folks, including a guy shot in the chest with a .38 and he wouldn't sit still and wait for the medics. Interesting, but probably meaningless, although i don't have much faith in wadcutteres now.

I would love to see some of the statistics or other data from DM2 on bullets, wound locations, etc.

Bottom line is this: I respect your conclusions, your background and your experience. You have more experience in this area than do I, and your opinions are worth knowing, but I would rather have data and facts so I can reach my own conclusions. Just saying "I'm a cop...trust me, the .45 is no good" or "I work in an ER and I would never carry a 9mm" or "my son was in Iraq and hated his M4" doesn't give me much. Telling me how calibers and bullets work when they hit bone, muscle, intermediate barriers, etc., can be very helpful. In other words, I would like to hear more about what you have seen than how you feel. No offense.....

Another person posted:

Ok, sorry to be long-winded.

I continue to disagree. NO handgun round is a miracle weapon. IF any weapon gets that misnomer is would be a high powered rifle. I don't understand this "myth" that the 45 is the "Holy Grail" of handguns; that if you are not using a 45 acp you are under-gunned. Isn't the first rule to be armed anyway? What about shot placement? Oh yeah, in 4 years of law enforcement I have NEVER seen a meth/crack head that weighed over 200 pounds. Not that they don't exist, just that I don't think the chances of running into 6'8" 350 pound Bubba are high.

Someone else posted:

Right, Chris. In the Glock annual this year they had the story of a policeman who went against some home invaders with her Glock 21, a .45 caliber. She hit one BG in the head and he stayed in the fight. She hit another (I forget where) several times, he too stayed in the fight. She was shot three times. One of the BG's died later I believe. She and the other BG survived, and she's back to work.

As to shot placement, a lot of people use that term. As you no doubt know in a real gun fight, often, you're lucky to get a hit, much less a 'shot placed' where you want it. I guess that's where a larger caliber bullet would be nice, even poorly placed it's likely to do more damage than say, a .380.

A lot of stopping the threat, I think, is luck and having lots of ammo. I don't have any statistics. but I wonder what percentage of BG's are stopped by "spray and pray." I'll bet it's a lot. Spray and pray, in fact, will probably be the default option for all amateurs and more than a few policemen. It's a good one.

On the subject of 9mm's. We had an officer a while back who was shot by his partner's gun when the

BG took it. (Most unfortunate, but it happens.) The officer was a big guy. He was shot in the upper left chest, and while it didn't kill him, it clearly took him out of the fight. This was a 124 gr +P+ fired from a Glock 17 or 19. The BG was taken out of the fight, and quickly died, with two shots of the same ammo, also from a Glock 17 or 19.

I don't want to contradict true experts, but just throw this into the mix. I'd have to say, carry the largest caliber you will carry and can handle, is probably a good rule of thumb. Every little edge helps at a time like this.

If you're like I am, you read discussions like these, you want to run out and buy a .45. But that's not going to happen with most people and for many good reasons. And I think that's fine. Get as good as you can with what you can handle and afford.

But I much appreciate Deadmeat's comments and the others as well.

The idea I got from DM2 was that most of the multiple shot kills he sees are the result of a 9mm or .380 ,while a body with only 1 or 2 holes in it was almost always killed right off by a single .357,.40,.45 .

I agree with DM2s observations and value them because they go along with most everything I have heard from other sources. Also because I believe a heavy slow moving bullet like a .45 has more smack down power than a 9mm. It makes a bigger hole, it's putting a lot more metal in your body and the wider bullet will transfer more energy into the target than a real small one. It's just an established fact, bigger bullets kill better than smaller ones do. If I'm going to be gut shot in a gun fight I'm praying it's a .22,.25 or .32 slug in me rather than a .45 or hollow point .357. I'd even take a .380 or 9mm to a .40 or .45 sort.

Have your buddy poke you in the ass with a sewing needle, then have him drive a 10 penny nail into ya, see which wound is sorest for the longest. lol .

Likewise, shoot a deer with a 30'06 or 7mm,then shoot another with a .45-70.

Lol, no one will ever accuse me of being scientific. Neither will anyone ever convince me lighter and faster is always better.

But I'm getting off the subject.

The biggest things I get from DM2 is

- 1. Bigger the bullet is the better chance you have of hitting something important as the bullet goes in and bounces around in the guts.
- 2.Hollow points can get clogged up as they go in and lose there effectiveness, or else get shattered on some bone and bounce around for a little while in several pieces, killing the bad man eventually but still allowing him to shoot ya as he bleeds out internally.
- 3. Your probably going to have to shoot multiple times if you have to shoot once.

I think we all agree on these points.

My coworker was confronted by an armed robber and tossed his wallet over as demanded, hitting the robber in the chest. The LEO drew his issued 9mm as the robber picked up the wallet.

The first two went in the dirt. Six went into the upper legs and groin, removing or damaging the testicles. Surgeons may have finished up later. By this time I suspect the BG had a huge adrenaline dump.

The LEO continued bringing his gun upward to the chest and emptied it, which was six more rounds. At least two were near the heart.

The BG commented that he felt tired, sat down and then reclined, still holding on to his S&W Sigma 9mm.

This had been a close in gun fight in which both parties moved as the range increased. The LEO suffered a grazing wound described as a burn by a passing bullet.

The BG survived and is in custody. That he lived may have been due to the immediate medical care he received. The incident occurred in a large US city accustomed to treating gunshot wounds.

Take from this what you will. We do not teach shooting into the ground or targeting the thighs or groin. The street and reality differs from training and the school solution.

I think my coworker did the best he could in that moment in time with his life on the line. I would hope I could do as well.

I can't say any other caliber or load would have made a difference. I can only say this did happen and my source of information was the LEO who debriefed our involved agent.

The shoot was ruled justifiable.

Everyone should carry what they are comfortable with, but there are NO magic bullets.....

BEN SCHMITT

Detroit Free Press via the Associated Press

Detroit police officials are investigating the ammunition officers use after a bullet fired from a cop's gun bounced off a suspect's head and another bullet failed to penetrate the winter jacket of a suspected robber.

These two recent incidents -- and rumors of others -- have touched off a fierce debate that's raging from patrol cars to the gun range to the chief's office. It's a sensitive topic in a department under federal supervision, partly because of complaints about excessive force.

Chief Ella Bully-Cummings ordered the investigation.

"Any time officers are concerned, in order to dispel those concerns, it's important that we look into the matter," said Bully-Cummings, adding that the type of ammunition the department is using "is one of the best."

The .40-caliber bullets are manufactured by Federal Cartridge Co. of Anoka, Minn. They are known as expanding full metal jackets.

The chief said they were first issued in January 2004, after years of urging by the police officers'

union, which wants ammunition that will stop a threat but not so powerful that bullets plow through bodies and hurt other people.

The chief said another worry of the officers is that body-piercing bullets -- known as full metal jackets -- sometimes allow gunmen, even after being hit, to continue to advance on officers while firing. Expanding full metal jackets differ from standard full metal jackets in that their tips are filled with a silicone-like substance and are designed to stop inside the body rather than exit.

Rich Weaver, secretary-treasurer of the Detroit Police Officers Association, wants more answers. "We do know there were some recent incidents where some rounds did not take effect," he said Tuesday. "A bullet is supposed to go through winter clothes. We can't shut down for winter season."

Detroit Police Sgt. Lawrence Semczak, a supervisor at the department's gun range, insists there is nothing wrong with the current bullets.

"There's a major misperception out there right now," Semczak said. "It's all conjecture. The rounds do what they're intended to do, which is stop a threat."

Evan Marshall, a retired Detroit police sergeant who lives in Midland, has written three books on ballistics. He's a proponent of the current ammunition.

"It's certainly better than the standard full metal jacket, which will over-penetrate and endanger bystanders and other officers," Marshall said Tuesday. "A straight, full metal jacket will go through a target. It won't deform unless it hits a major bone."

Federal Cartridge Co. said in a statement Tuesday that it is "working directly with the Detroit Police Department to support all of their ammunition research needs regarding this matter. It is impossible for us to respond in detail to this specific situation without doing further examination."

Spokesman Jason Nash said in the statement: "We do have full confidence in our product based on extensive testing and previous live-fire field reports and will do all we can to support the Police Department's investigation."

Nash said Detroit's bullets are also used by numerous other departments, and he knows of no other complaints.

The first incident that sparked worry took place Feb. 1. A Detroit officer fired at a robbery suspect, who had fired a gun. The bullet hit the suspect's head but did not penetrate. He was hospitalized with a head wound, but an examination showed the bullet did not enter his skull -- perhaps because the man had a metal plate in his head from a previous injury.

"The incident raised our concern," Bully-Cummings said.

The second incident took place Feb. 12 when several officers from the 6th (Plymouth) Precinct shot and killed another robbery suspect, who was shooting at them. An officer was seriously wounded in the fusillade, and the suspect was struck 11 times. But when the officers and evidence technicians examined the man's body, they reported that at least one of the bullets had failed to penetrate his thick winter jacket.

More from Deadmeat2:

At long last we've got a little controversy here so let me see if I can sort out some things that I apparently didn't make as clear as I might have. First, I'm not a pied piper seeking to wean you believers of the 9mm over to the .40 or .45. I happen to like 'em both, and, as you've probably guessed, I'm not a big fan of the 9mm, but for those of you who are, fine. I've got no problem with it.

Second, there has been a fair amount of anecdotal evidence presented in the past few posts, little of which I have much faith in. We've all read stories about the BG who was hit with 2 magazines of +P and lived to tell the tale, often with the conclusion that the caliber used was ineffective. And, as I said in an earlier post, what isn't said is what clothing he was wearing, what his state of mind was, what the bullet did once it hit bone and/or flesh, what ammo was used and whether the hollowpoint hit an intermediate target before reaching our BG... The list goes on and on. We can rehash stories we've read citing various calibers and bullets, but are these really a basis on what we should be using to decide what to carry? I think not.

Third, there's no "magic bullet", caliber, or weapon. Folks, it just doesn't exist. No, not even the .45. The closest thing we'll ever get to a "magic bullet" is the one that hits the central nervous system, and that's also the only one that guarantees a one-shot stop.

10ring makes some good points, as expected. I wish I had data to back up all of this, but the only way to get it would be to wade through every autopsy report and accompanying police report, review the autopsy photos, and then review the tox and ballistics reports, clothing photos, and crime scene photos, all of which would figure into the findings of the ultimate demise of our BG. And even these would be incomplete. Sometimes due to bullet fragmentation or deformation we never even know what caliber they were hit with much less with what bullet. There might be some way to get at part of the data needed for a complete analysis but it would require a large investment of time, which I don't have. As I said early on, these are observations only, nothing more, nothing less.

Rather than responding to all the numerous questions posed in the past few posts, let me just lay it on the line. For ME, there's one main factor I'm looking for in a defensive weapon, and everything else is secondary. It isn't velocity, since in most handgun calibers we just can't get the velocity up enough to make an appreciable increase in the size of the temporary cavity. It isn't bullet type, because for the most part modern bullets have increased in efficiency to the point that they pretty much do what we want them to and do it reliably. It isn't dumping all the energy in the BG although this is preferable to dumping it outside of him. And, no, it isn't even caliber. It's something I've talked about in a couple of other posts.

It's PENETRATION. Pure and simple. Give me guaranteed penetration to the vital organs with whatever caliber you like and I'll take it to a gunfight any day, 9mm included. As I said in another post, you don't have to shred the heart, just hit it, and a BG with an artery nicked by a 9mm is just as bad off if it were hit with a .45.

And it's here that I have a problem with the 9mm and .380 (and a few other calibers as well). Yes, many time they penetrate to the vitals just as well as a .45 or a .44 Magnum for that matter. But many times they don't. Yes, I've seen it. When I brought this up in an earlier post or two, I thought I had made that clear, but maybe I didn't so let me try again.

Assuming that we're going for the chest, we need to know that the vitals contained within it are extremely well protected by bone. We've got 24 ribs and the sternum (breast bone) in front, the clavicle (collarbone) and part of the scapula (shoulder blade) on top, and ribs, scapula, and the spine in the back. Not only that, but the bones are all tightly-spaced making it very difficult for a bullet to

hit the goodies without striking bone first. Throw in the fact that when the arms are at the sides, the sides of the chest are protected even more and you've got a high-value area that's hard for many bullets to reach.

As I've said in an earlier post, there are two main components to ending a fight. One is shot placement, i.e., what part of the body does the bullet strike to begin with, and, two, what does the bullet do once it gets there? A perfectly placed shot to the chest will often be ineffective if it doesn't penetrate. Conversely, a poorly placed shot may end the fight if it does. It's penetration that I think is the principal component in ending a fight and everything else is secondary.

From empirical observation of what comes across the autopsy table, I've noticed MANY times that the 9mm or .380 strikes bone and is deflected into a non-vital area, never reaching vital organs. And I've seen it with multiple shots on occasion. Other times the 9mm or .380 will fragment before reaching the vitals or just plain haul up short. Whatever the reason, often times adequate penetration needed to reach vital organs is not achieved and the fight continues. Much of this, I think, is related primarily to bullet weight with the 9mm typically weighing about half of the .45. Yes, I've already said the .357 is a proven man-stopper with the 125-grain bullet, so it's not entirely a function of bullet weight.

As I think I've said before, I don't think I've ever seen a .45 fail to penetrate adequately, and it's for that reason that it's my carry weapon. Time and time again I've seen the venerable .45 just keep plowing along, busting up bone instead of skipping off of it or being stopped by it. If it's headed in the direction of the vital organs, there isn't much that's going to deter it from its intended target.

All things being equal, I suspect that a hit to the vitals with a 9mm ends the fight as quickly as an identical hit with a .45. At least in the autopsies I've seen I've never had any indication to the contrary. But that's not the point. Let me say it clearly here. In my humble opinion, the 9mm and .380 are more likely to fragment or be deflected into a non-vital area or to simply stop short of reaching the vital organs than a similarly-placed shot with a .45. It's all due to penetration.

For me, I want a large bullet from a large caliber in a weapon that I can control effectively and get off multiple shots from effectively. I want that bullet to be able to **CONSISTENTLY PENETRATE** the thoracic area even with heavy clothing, and I want a margin of safety built in to the extent that I'm still confident of the effects of the weapon under less than optimal conditions. For me, at least, it's that simple.

Someone else posts:

I certainly hope my comments were not considered defamatory, and if everyone agreed and there were no questions or debate this would be kind of boring, wouldn't it?

So the answer is that you believe penetration to be critical and believe the .45 offers more consistent penetration than does the 9mm.

Well, I agree on the penetration issue (combined with some measure of expansion, and the manner of expansion) and agree that the best .45 bullets probably offer more consistent performance than their 9mm counterparts. But I also believe that the .45 performs best in longer (4-5" barrels) and can actually be less effective than a 9mm when you try to push it out of a 3.25-3.5" barrel. It just starts slowing down too much unless you start with a really hot .45, which in a small and light gun will be a handful and placing quick and accurate follow-up shots will be more difficult for most of us.

I think that with the right bullet, the differences between the 9, 40 and 45 are fairly small, and are probably outweighed in any particular case by other factors, such as the "target's" clothing, size, mental state, distance, intoxication, shot placement, etc.

I also think that those bullets that expand in a manner resulting in jagged edges are likely to cause more tissue damage and more blood loss and therefore will tend to be more effective when a major organ is not hit.

It can't be just penetration, or we could all carry 9mm fmj and be done with it. It can't just be diameter or we could just use .45 ball ammo. The wounding mechanism of a handgun bullet is complicated and there are a lot of pet theories out there.

I understand that it probably isn't feasible for you to provide the data or detail that I would like to see, and I gather others may not care. Personally, I just find these discussions of caliber and bullet more interesting when accompanied by hard information, but the discussion is still interesting even without that.

Deadmeat2 Responds:

Ok, let's get to some of those questions. First, my Ph.D. is from the University of Tennessee in Anthropology. And, no, my dissertation isn't on ballistics, wound characteristics, or anything else even vaguely related to this topic. And, no, I don't consider the fact that I've got a Ph.D. to elevate me above anyone else as anyone who knows me will tell you. Yes, I spent quite a bit of time in Kosovo and another eight months in Bosnia working mass graves over there.

Let's go back a bit. My disparaging remarks about the 9mm notwithstanding, I own two of them, used to reload for them, and for years used to use one as my carry weapon. In fact, my .45 is a relatively recent acquisition, bought only after I started working in the morgue. And there's a reason for it, the reason being that I've just seen too many instances where the 9mm fragments or stops short of reaching the vital organs.

I can understand your desire for data but how do I give it? I could show you x-rays of fragmented 9mm bullets beneath the skin, but that isn't allowed. I could give you autopsy reports detailing the bullet path and the resulting injury but that isn't allowed either. And you're absolutely right that often the ME can't tell what caliber and/or bullet was recovered at autopsy, and I clearly stated that in one of my earlier posts.

Look, I've tried to do one thing and one thing only here. I've tried as best I can to summarize my observations from what I've seen in the morgue. I've seen 9mm rounds fragment before reaching the vital organs and I don't think I've ever seen a .45 do that. That's all I've said, nothing more. I've never claimed that this was research, just observation. I'm fully aware that wound ballistics are complex and that penetration is due, in part, to an interaction of bullet type, velocity, and a few other things. All of that is interesting but that was never the thrust of this thread. Let me say it once again. All I've said all along through the past 15 pages or so is that I've seen the 9mm and .380 often fragment or stop short of reaching the vitals but I don't think I've ever seen a .45 do so.

Someone posted:

I've been in public service since 1983, including time as a paramedic in Washington DC, an Army MP, a state probation officer, and a state prosecutor.

Since 1983 most of the killings I have seen have been .38 Special/.380 ACP and below caliber. I prosecuted one murder 2 in 2003 where a drunk migrant fruit-picker got into an argument with another drunk and let fly from 30 feet, in near total darkness, drunk, with a 2" Charter Arms Undercover .38, and hit the target (who at 5'6" weighed 230 lbs and was intoxicated both on alcohol and cocaine) in the left chest twice with lead round-nose ammo that had to be thirty years old, and killed him. The medical examiner told me that the victim was out of the fight instantly and died in minutes, from a transected artery and punctured lung.

I also saw D.C. police shoot a guy riding the Love Boat (marijuana laced with PCP) six times with issue .38/.357 revolvers in 1986, and he still planted a knife in one of the officers before going down.

More from Deadmeat2:

10ring, sounds like your week was about like mine. It came to me last night what the problem was here, and from the sound of it neither one of us quite seemed to see it. You were making a case for WHY a given bullet or caliber worked or didn't. I was making a pitch not so much for WHY, but that it does. Your side is an argument that started long before either of us were born and will still be raging long after we're gone. As I saw it, my side wasn't open to debate.

To question my observation that I've seen SOME 9mm and .380 (and other caliber bullets) fragment and/or not penetrate and the vaunted .45 not fail to do so you've got to assume one of three things: a. I didn't see it (I did), b. I saw it and changed the facts (lied) to fit whatever agenda I had (I didn't) or c. actually saw it and somehow misinterpreted it (I didn't). I guess you got my dander up because I thought you were somehow questioning my integrity, which I realize now you weren't.

And apparently I never quite made it clear that I'm not talking about the 9mm or .380 fragmenting or failing to penetrate in every case or, for that matter, even in most of them. In most cases it works just fine and will hold its own against any caliber, including the .45. But my point was that I've seen a pretty large number of them (don't ask for numbers because I don't have 'em) of 9mm and .380 bullets that failed to penetrate and/or fragmented beyond what was effective. Does it happen often? Not a lot, but happens often enough that I would be reluctant to use it as a carry weapon. Does the same thing happen with the .45? Possibly, although I've never seen it. That's all I was saying.

I don't know where you're located but you obviously know where I am. Sure, I'd love to have lunch or a beer with you. Better yet, why don't you give me a call and drop by the morgue for a visit. I'd love to show you around. Maybe we'll have one on the autopsy table that has had a few holes poked in him with a 9mm or .45 and we can continue the discussion while prodding the innards. Looking forward to hearing from you.

DM2, I have enjoyed your posts and most of the others in this thread.

As for some information backing up some of what DM2 has posted, there was an article a few years ago documenting the Texas Dept. of Public Safety's search for a new pistol. They had gone from .357 mag revolvers to .45 and 9mms. They studied all of their shootings and found that often officers were required to fire into cars, so ability to penetrate windshields and car doors was a consideration. I am going from memory here but here are some of the highlights:

.357 mag worked quite well but they were going with a semi-auto pistol. This was the round that all others were judged by.



9mm penetrated windshields and car doors BUT the bullet tended to fragment, meaning Bad Guy was hit with only fragments which did not penetrate heavy clothing.

.45 would penetrate windshields and car doors and stay intact. The problem was that going thru the windshields or car doors slowed the round down enough that it would not penetrate heavy clothing.

.40 caliber was considered but viewed as a cross between 9mm and .45, meaning you get the best and worst of both calibers.

.357 SIG is what they ended up getting. It had similar ballistics with .357 mag, would penetrate windshields and car doors and still have velocity and bullet weight to penetrate a bad guy.

I am not advocating .357 SIG, just pointing out that some of DM2's observations are correct. I have shot the .357 SIG but don't really care for it. Another agency I know of considered the recoil and size of their officers and ended up with 9mms and have done quite well with them. I believe they are/were using Cor Bon ammo.

As far as shot placement goes, you could have two different bullets hit a body in the same area and both bullets could and probably will take wildly different tracks on their journey thru the human body. Gang bangers and Thugs are not known for using thing like sights; they advocate the spray and pray method or the up close and personal shooting (gun to back of head).

Right now, my duty weapon is a .40 (Speer Gold Dot), my back-up weapon is a S&W 360 PD (357 mag. Glaser), my off duty weapons are a 1911 .45 (Speer Gold Dot) and a 9mm (Federal EFMJ).

Deadmeat2 says:

The reason so many folks wind up on the autopsy table with 9mm and .380 holes poked in 'em is because these two calibers are the ones most commonly carried by the BGs. It stands to reason that the more BGs that are carrying them, the more BGs that will wind up on the autopsy table with these rounds in them. And in most cases they work quite well. Let me make this clear. Still, as I said in a very recent post, there are a fair number of times when they don't, and these are the times that give me pause for thought. I realize that nothing is guaranteed regardless of caliber, but I've can't seem to remember a .45 that fragmented or failed to reach the vitals as a result of a deflected bullet but I can think of plenty of times when I've seen the .380 or 9mm do it.

And that's a great point about the choice of calibers for the poe'-leece (as we call them down here). Remember, though, that a traffic stop is pretty much different than the way the average citizen generally encounters a BG. More often than not it's at an ATM at 3:00 in the morning, a deserted street, or some other place where an intermediate target such as a car door or windshield won't be in the way. Not that I think a bullet that would penetrate these would be a bad idea by any means.

You're right, Catshooter, it fell through the cracks. Sorry. Anyway, I carry a Para-Ordnance Para Carry loaded with 230-grain Gold Dot, but in all honesty I don't think you'd go far wrong with almost any brand these days. When it's cold enough and I can get away with it, I've even been known to carry my IPSC gun, double stack .40 STI Edge. And, as you've probably guessed, I prefer heavier bullets whatever the caliber.

I'm going to step away from this thread for awhile and may or may not pick it up at a later date. As it turned out, this thing sprouted legs and I spent far more time on the forum than I intended. Now I've

got other thing that require my attention so I'm going to leave it with you and maybe come back with some other thoughts at a later date if time permits. I travel extensively, and I need to make the best use of my time when I'm actually in town.

This thread started as just a simple CCW tale I had first-hand knowledge of and then morphed into a zillion different directions, none of which had the slightest thing to do with CCW. It was not my intention to diverge into such a lengthy thread that discussed calibers, bullets, tactics, and other things, but I'm kind of glad it did. There's a lot of information out there, some of it good, some of it bad, and some of which will kill you.

Like most of you, I had lots of preconceived ideas of what works and what doesn't, and like most of you most of the information I used to develop my own ideas of what bullet, caliber, and gun to carry were based on extensive readings in gun magazines, published reports of actual shootings, demonstrations of penetration in ballistic gelatin, anecdotal information, and just plain old personal preference. Once I started working in the morgue I found out that it just ain't necessarily so, and many of my long-held beliefs went out the window.

The interest in this thread seems to derive primarily from the fact that I work in a morgue which, in itself, is apparently a rarity among the shooting crowd. In the morgue, I guess the popular expression could be bastardized to read, "The bullet stops here." We get to see the end result of gunfights, good and bad, what worked, what didn't, and what could have worked better. And it's because I get to see autopsies and the bullet trauma that comes with them that I've developed my own ideas of what works. The fact that I've been shooting for over 50 years now and am an avid reloader helps, I think, to understand what I see at autopsy.

My opinions expressed in the previous pages are just that--opinions--so take them only as that. Still, they are based solely on what I've seen in the morgue, not what I've read about somewhere, so I'm comfortable with them. Skeptic that I am, I want to see things, not read or hear about them. If there are some pearls of wisdom that make sense to you, use them; if you think I've fried too many brain cells breathing formalin and what I've seen goes against everything you believe, feel free to toss it.

In any event, stay safe. I don't want to see any of you on my autopsy table.

Someone else posts:

In 20 years of working the streets, I have seen a lot of shootings. Sometimes the results are what you would expect, other times, make no sense at all.

A subject walked up to the back door of the station once. He had been involved in a fight with another subject and told the first Officer that he had been shot. He raised his shirt and showed 5 entry wounds to his chest. I followed the ambulance to the hospital and looked at the X rays with the doctors. Every single round missed every single vital organ. It was FMJ .380. No organs, bones or ribs were hit. It was amazing.

One of our Officers shot a subject through the neck with a .45 Hydrashock. He was trying to run over another Officer. After the shot, the subject drove off, we had a pursuit, he bailed, ran a couple blocks and barricaded himself for hours in a house before he surrendered. He appeared before a judge the next morning with a big wad of gauze on each side of his neck. That round had missed every single important thing in his neck, how? Who knows.

Another subject was trying to run over an Officer. The Officer fired several rounds of .40 through the windshield. One round hit him in the face and stunned him (a little) He had to be wrestled out of the car. At the hospital, he spit the bullet out of his mouth. The windshield slowed it enough to where it penetrated his face and sinus cavity, that's it.

Homeboy #1 was standing in front of his gang house. Homeboy #2 drives by in his 70's Chevy. At about 30 yards, he leans across the seat and fires one round of .22 LR out of his RG out the passenger window. That stupid little bullet smacks HB#1 straight through the aorta and he drops dead without twitching.

And on...and on....And on....

A good friend of mine who is a serious shooter, and teaches a lot of people who shoot people for a living sums it up nicely. Poke a hole. Poke the biggest hole that you can. Poke it all the way through. Penetration is king. If you can get a bullet that can reach the central nervous system from any angle on any human body, you have done all you can.

I would argue that a FMJ bullet is a better choice than a rapidly expanding Hollowpoint, unless the HP is heavy enough to penetrate. A good flat semiwadcutter may be an even better choice.

I usually carry a 3" 65 loaded with full house 158 GR .357's. I see a defensive shooting be a very close up fast event. There seems to be some weird combination of physics that makes a .357 inch bullet traveling around 1200 FPS a really good combination for dumping energy into 170-220 LB bipeds. No idea why, but, statistics bear that out.

My uniform gun is a Glock 35 loaded with issue 180 GR Gold Dot. Seems to be a pretty decent bullet. Heavy enough to penetrate.

Deadmeat 2 posts again: Maybe it's just human nature, but for some reason when a differing opinion runs contrary to preconceived ideas, often the first response is to shoot the messenger. In many cases that's what I'm seeing here. It also seems like in the haste to empty your magazines at the messenger, some of you aren't reading things very carefully:

- 1. I'm not a coroner or pathologist. Never said I was.
- 2. I don't work at the Clayton or Fulton County morgue. Never said I did.
- 3. All of the autopsies I see aren't gunshot victims. Asked and answered six weeks ago on my May 18th post. As I clearly stated, some are naturals, some are SIDS, some are overdoses, etc. although there aren't many days that we don't have at least one gunshot victim. We do autopsies 6 days a week, I work of 5 of those days (and often 6), and on Monday morning I look over photos of the few that I might have missed from Saturday. Any bodies taken in on Sunday are rolled to Monday. And when I'm out of town often I'm at another ME's office observing autopsies there. Of course if you want to figure in the ones I saw (not worked on) in Kosovo and Bosnia we can bounce that number up much, much higher.
- 4. Yes, most of my job is WORKING on skeletal remains or decomposed bodies, but I often OBSERVE autopsies of the newly-dead. I said that also.
- 5. In a post on another forum it says I'm a big fan of the 10mm. Really! Please show me where you got that information because I certainly can't find it.
- 6. The list goes on and on...

If you'll CAREFULLY read this thread, I think you'll find that you can condense the vast majority of

it to one thing and one thing only--my OBSERVATIONS from the morgue regarding the wounds I see inflicted. Not what I've heard, not what I've read about, not what I "believe" or "think." Take it a step farther and you'll see that my concern with the 9mm and .380 (and other calibers) as a defensive weapon is that I've SEEN it fragment and fail to penetrate to the vital organs whereas I don't think I've ever SEEN the .45 fail to penetrate to the vital organs if headed that way to begin with. As I've clearly stated, most of the time the 9mm works just fine. It's the times that it doesn't that bother me. Obviously, there's no one bullet/caliber that's going to work all the time in all cases, not even the .45, but IN MY OPINION (and I've said this is opinion many times) I think the .45 adds a margin of safety that the 9mm doesn't have, that's all. I happen to carry the .45 because it's the largest caliber I feel like I can shoot effectively when the chips are down. Frankly, I'd rather be carrying Smitty's beloved .500 Magnum but I know my limitations. Virtually all thoughts expressed in my posts are predicated on what I've SEEN.

And that's what I don't quite understand. Just a quick count of my posts shows that I've used the word "see" or some variation thereof (e.g., saw, seen) 94 times (and I probably missed a few) or "observation" (at least 6 times). So in these posts I've detailed what I've SEEN on the autopsy table at least 100 times by actual count. What followed are ideas developed from my OBSERVATIONS. If you want to dispute what I've SEEN during autopsy you've really only got three options: 1. Say I didn't see it (I did), 2. Say I saw it and changed to facts to fit an "agenda" (I didn't), or 3. Just didn't know what I was seeing to begin with (I do).

SEEING what happens to a bullet at autopsy isn't rocket science, folks. Once you dig it out you'll either see that it expanded or it didn't, and once you look at the wound track and look at the x-rays you'll either see that it reached the vitals or didn't. It's really quite simple. I could take any of you, show you an autopsy involving a gunshot wound, show you the wound track, show you the bullet, and I feel sure we'd agree on what we SAW.

EXPLAINING what happened and why is another story. SEEING what I have in the morgue, I've learned that bullets often do the strangest things once they enter the body, and no reasonable explanation will suffice. I've also mentioned that in my posts. On occasion I've speculated on why I think something happened but I've always prefaced it with the caveat that this is just speculation. And I've said many times that sometimes I just can't understand what went on. For those of you who think you have it all figured out, please enlighten those of us who don't.

On another forum, there's the comment that since I work in the morgue, I don't get to see the living. That's right, we don't. That's why we call it a morgue, not a hospital. There's also a comment that we don't get to see how long our BG remained in the fight after being hit or how long it took him to expire. Right again. So how do we do it? I've never known anyone to take a stopwatch to a gunfight or whip out their CED8000 when the first shot goes off, and it's an accepted fact that there's time distortion in most traumatic events, which I suspect a gunfight would be classified as. And even if they manage to make it to the hospital only to die there, is that always really indicative anything? EMS can often sustain life far beyond what it would have been if left unattended. If a BG is hit in the frontal lobe and lives in a vegetative state for days, months, or years before someone pulls the plug, do we then say that because he lived that period of time after being hit that the shot was ineffective? I'm not nearly as concerned about how long he lived in the hospital as I am in how long it took after he was hit to quit firing back at me. So how do we determine how long he lived or stayed in the fight? If you're going to pose a question at least give us a way to get at the answer.

And then there's the one about shot placement. Sure it's important, as I've said MANY times in my posts. But shot placement actually has two facets, as I also stated. Most folks think of shot placement as where ON the body the bullet initially hit i.e, the chest, the abdomen, etc. But there's the other

half of it, which most of the flames don't get around to mentioning, that being what does the bullet do once it enters the body? And as I've said MANY times in the posts, quite frequently I've SEEN the 9mm fragment but not the .45. Yes, most of the BGs are really lousy shots and shot placement doesn't seem to be quite as high on their list as putting a lot of lead downrange. I've said that also. But I've seen BGs with .40s and .45s do the spray and pray thing also, not just with the 9mm or .380, and for the most part I've seen better results with the .40 and .45.

And data. As I said from the outset, the information contained in my posts is OBSERVATIONAL. I never said I had subjected it to any statistical analysis.

As for my "agenda", I have none. As I clearly stated in the forum, I used to carry a 9mm before working in the morgue and only switched to the .45 after seeing both calibers being dug out of BGs. If that tells you something, fine. If not, that's fine too. And, no, I don't work for any gun or ammo manufacturer, so it makes absolutely no difference to me what caliber you carry or even if you carry at all. I'm not trying to wean you away from your beloved gun/caliber/bullet, whatever it might be. I'm just trying to give you food for thought, nothing more.

So let me try to sum this up one last time. Forgive the caps for emphasis but I feel they're needed because somehow the points seem to be getting lost on a few of you: From what I've SEEN in the morgue, MOST of the time in a gunfight the 9mm will get the job done. How fast, I don't know nor does anyone else since there's just no way of knowing how soon he died or how long he stayed in the fight after being hit. SOMETIMES, however, I've SEEN the 9mm fragment or fail to reach the vitals but I can't remember the .45 doing so. THIS IS OBSERVATIONAL, NOTHING MORE. I don't know how to make it any simpler than that.

What we're looking at here, folks, is analogous to the parable of the blind men touching an elephant. One, who touched the tail, said he thought it was like a rope. Another, who touched the ear, said it was like a fan. Still another touched the tusk and said it was like a pipe. Although each of them was correct in his perception as he knew it, none of them had the full picture. What I tried to do over the course of several weeks was simply to present another aspect of the elephant. Like you, I've read countless theories on why a particular caliber works or doesn't. Like you, I've read the police shooting reports. Like you, I've developed my own ideas, so up to now we've all touched the same parts of the elephant.

Unlike most of you, however, I work in a morgue. By working in a morgue I thought my OBSERVATIONS of what I've SEEN would present a part of the elephant that most of you had never seen before. I don't spend much time on any forums so perhaps this information is out there and I just don't know about it. From all indications, however, it isn't.

Do I have the complete picture of the elephant just because I work in a morgue? No, absolutely not, and I never said I did. Like you, I'm just holding on to my small part of him. Perhaps if we can just turn loose of our own part of the elephant long enough to quit shooting at the messenger and listen to his description of a part of the elephant most of us aren't acquainted with we could all become a bit more enlightened and gain a fuller picture of what we're holding.

Someone else posts:

May I apologize in advance if I am somewhat long-winded here?

Most of us who have been involved with shooting have a few (or a lot) of anticdotal stories about

what failed to stop or really stopped.

While most of us agree a 12ga. is a pretty good stopper, disagreement starts after that... some claim the .223 round is wonderful for self defense others say it is junk.

If you look at enough shooting you can find failures to stop with about anything. The real issue is what works well and FAST most of the time. This is what Marshall and Sadow tried to do in their books a few years ago. The result of those books was serious controversy over the usefulness of those statistics. You can decide for yourself if you think they are useful, but they were an attempt to predict what would work and what would not.

Earlier Major General Hatcher did extensive studies for the War Dept. on the effectiveness of various rounds. He concluded that among pistol cartridges, the .45 was hard to beat... and his conclusion was generally agreed to by those who had actually used various pistols in combat.

While we may argue the reasons, the fact is combat soldiers preferred the .45 acp to the 9mm and the troops today want to get rid of the 9mm for a .45... based on their experiences. Special units that have the ability to buy weapons commercially have already bought .45 acp pistols. These units express great satisfaction with the .45 and very little with the 9mm. This may be related to the fact they are required to use ball ammo... and because they are limited to ball for political reasons, the .45 is all the better.

All that said, I know of few if any who have carried the .45 in real "elephant viewing" situations who would choose the 9mm over the .45.

Another person posts:

Bottom line is this: I respect your conclusions, your background and your experience. You have more experience in this area than do I, and your opinions are worth knowing, but I would rather have data and facts so I can reach my own conclusions. Just saying "I'm a cop...trust me, the .45 is no good" or "I work in an ER and I would never carry a 9mm" or "my son was in Iraq and hated his M4" doesn't give me much. Telling me how calibers and bullets work when they hit bone, muscle, intermediate barriers, etc., can be very helpful. In other words, I would like to hear more about what you have seen than how you feel. No offense.....

Deadmeat2 posts again:

I'm going to answer this last question and then back out of here for good. I've got other things more pressing and this thread has taken up an inordinate amount of my time.

As for the .223 and the 7.62x39, yes, I've seen a few but not enough that I'd feel comfortable expounding on them. I wouldn't doubt the rifle instructor's description of the shredding of the organs a bit because I've seen it myself. Because the velocity of almost any rifle caliber is usually greater than with handguns, the temporary cavity caused by most rifle bullets is ALMOST always going to be bigger and cause more damage. In their military configurations, both calibers are FMJs, and most authorities (of which I'm not one) believe that yaw, a major factor in wound dynamics, begins in a shorter distance with the .223 than the 7.62x39 and thus imparts more damage, all else being equal. With increased yaw, the .223 begins to deform and even fragment while the 7.62x39, which usually has a steel core in addition to lead, often does not. Change the bullet design and you've just opened another can of worms. Let me say this very clearly to avoid alienating the rifle crowd: The

explanation I've just given is what I've read by those who have seen far more wounds of both calibers than I have, not by what I've seen. We rarely see either caliber and I just don't think I've had enough experience with them to want to take it much farther than that. We see mostly handgun wounds, followed by shotguns, followed by rifles.

By now, most of us have made up our minds on what we'll carry, one way or the other. In 21 pages of posts what I've said has either confirmed what you've long believed, possibly caused some of you to switch or at least rethink your caliber choice, or angered some of you so badly that nothing I've said is going to change your mind. Again, that wasn't my intent. My intent was just to provide food for thought based on what I've SEEN in the morgue.

Some of you have asked for descriptions of injuries, but I'm not sure a description such as "the projectile struck the anterior superior iliac spine, was deflected posteroinferiorly, and became lodged in the auricular surface of the innominate approximately 7 mm superior to the greater sciatic notch" is quite as effective as saying "it broke the hip". Descriptions of soft tissue damage would be even more complex than that. Yes, I could go back through the autopsy reports and give a description of the wound either simply, in complex fashion, or somewhere in between but I just don't have time to do it. If my statements of, "Occasionally, I've seen the 9mm fragment or fail to reach the vital organs, whereas I don't think I can remember seeing a .45 do so" aren't sufficient, I'm afraid you're on your own.

And, yes, we could bat around theories such as Hatcher, LaGarde and many others as well as innumerable variables such as bullet design, bullet weight, velocity, and intermediate targets and still wind up right back at where we are now--in the typical caliber war with no consensus and no resolution. And I don't have time for that either.

As a parting word let me say what I've said many times before--that what I've tried to do is provide food for thought based on what I've SEEN, nothing more. Take it for only that and don't try to read more into it than is actually there. Think it over and if there's something you can use, fine. If you are adamant that your opinion is correct even though it differs from mine, that's ok too. But in either case remember this: The mind is like a parachute--it only works when it is open.

It's been fun, folks, but now I'm going to leave it with you.

Stay safe, stay patriotic, and stay off my autopsy table.

Deadmeat2