

HANDGUN STOPPING POWER

by Bob Campbell

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One Shot Stops, 9mm vs. .45, Magic Bullets - The Controversy rages in the debate over terminal ballistics.

There has been more debate concerning handgun-stopping power in the past 10 years than in the previous 100. A lot of gunplay took place in the old west, but period literature covers the tactics and personalities far more closely than the guns and calibers used. The .44 and .45 caliber revolvers in wide use on the frontier seemed to work with authority, and no one much questioned the efficacy of their ballistics.

Since the days when word-of-mouth was the only barometer of handgun effectiveness, we have made many advances in measuring handgun power. In my youth, most writers still used pine boards to test handgun cartridges, penetration being the only criteria. Later, ductseal and clay, both unrealistic media, were widely used. Today we have carefully formulated ballistic gelatin, developed by trauma surgeons to replicate human tissue, as well as some highly significant scientific studies of gunshot effects.

The study of tactics and human behavior is more important than the weapon, caliber and loading used in combat. Marksmanship can be proven to be the most important component of handgun effectiveness. Wound ballistics is a science, with conclusions drawn from studying bullet tracks in both ballistic gelatin and corpses in the Medical examiner's morgue.

Detractors of laboratory tests feel these tests cannot duplicate differences in point of impact, clothing, attitude, muscle structure and intoxication. But a ballistic scientist does not ask us to believe anything. He simply presents the results of certain tests. The results are not only verifiable, they are repeatable, the real test of science.

Stopping power "studies," on the other hand, ask us to believe in someone's conclusion. Assuming such compilations are valid requires a considerable leap of faith. Reports are often sensationalized, even glamorized. Are such studies grounded in reality? Are they even useful? Can they be supported by scientific methods?

I don't have all the answers, but I do know this- cartridges and loads are not as important as basic shooting skills. I don't believe trick loads significantly alter the ability of a smallbore cartridge to inflict damage. I simply don't accept many published reports because they are anecdotal and based on hearsay.

I respect some compilers for personal reasons, but believe their methodology is flawed. In other cases, there are conclusions made that are so irrelevant to the reality of interpersonal combat that they are not even worth publishing.

A Skeptical Eye

When it comes to the various handgun "studies," we must consider their validity. These "researchers" sell books that are not the King James version of stopping power. Yet the figures expressed are often quoted in the popular press as gospel.

The best known of the handgun stopping power studies are those of Evan Marshall and the Police Marksman's Association (PMA). A criticism of Marshall's work is that he has not allowed others to inspect and review his source material. To some, this reduces the validity of the study to zero. Certainly, such unsubstantiated work does not meet an investigative standard. As a longtime officer, I understand both sides of this debate. Confidentiality and respect for families must be considered.

Cops who collect shooting histories may not have engaged in much gunplay, but have arrived just after quite a few gunfights ended. Cops from Area Six in Chicago, Fort Apache (the Bronx) in New York, or The Wall in California have a good idea of the type of damage different handgun calibers inflict. They are good investigators as well. They realize that three eyewitnesses testifying in good faith may perceive events three different ways.

Human perceptions differ. The road to a detective's badge in many agencies is through the traffic division. Working wreck scenes is small-scale investigation, and separates the sleuths from the duffers in some cases.

Applying normal investigative standards to stopping power studies often reveals bankrupt methodology or standards. These "studies" do not even meet the criteria demanded by some agencies in ascertaining who is at fault in a fender bender.

Most police trainers have long abandoned the attempt to study stopping power and instead have concentrated on tactical movement and the actions of felons in combat. Tactics carry the day. By criticizing issue arms and equipment, we undermine an officer's confidence in his gear, something he is usually unable to change. Sure, a DAO 9mm loaded with subsonic ammunition is my gun from hell too, but a good man or woman behind the sights can make a difference. Tactics and marksmanship are a better answer than hotter loads in minor calibers.

One writer did the boys and girls in blue no favor when he stated in pat terms that load selection is more important than shot placement. His reasoning was that we can control load selection, but not marksmanship. Evidently he does not realize that shots that do not find critical areas are relatively ineffective. Any hunter knows better, and hunting lessons do indeed translate to self-defense. A gut-shot man behaves just like a gut-shot deer- both are up and running for quite some time.

Thousands Of Stories

Take Marshall's work at face value and accept that it contains thousands of histories. I am sure it

does. Is the methodology used by Marshall flawed? Many of us believe the decision to eliminate multiple bullet strikes from the data base makes small caliber loads look much better than real world experience would indicate.

Most handgun fights will be multiple strike incidents. One shot failures would be rare. After all, if the first shot fails, won't you fire another? Besides, trained shooters often fire double or triple taps before a subject can fall.

A problem with handgun histories is qualifying hits. I have on hand a report from police sources in which a coroner and a medical examiner, both reputable men, disagreed concerning the number of hits on a felon's body.

In a class I once attended, a medical examiner spoke in glowing terms of a certain new generation hollowpoint. He showed an impressive slide in which a bad guy- "Satan Lives" was tattooed on his chest- took a single hit which produced a long and wide wound track. Years later, the officer involved in the incident spoke at a seminar. He noted the man took the shot, stopped his attack, and remained mobile for some time, asking the officer to call an ambulance. The felon expired. The officer was certain the man could have continued the fight had he so wished. Two conflicting opinions on the same shooting.

Some adversaries are "machinegunned" in shootings- five .38s, seven .45s, or 41 9mms. Excited, frightened men empty their guns under deadly stress. If the felon goes down in such a volley, it may have been a one-shot stop. The volley that leaves a felon standing is always a failure to stop.

Dismissing multiple hits eliminates the majority of smallbore shootings. This renders Marshall's study relying upon such data flawed.

Marshall's work is far from worthless, but his best advice is found between the lines. He stresses the three components of stopping power- marksmanship, marksmanship and marksmanship. Marshall notes we are not very bright if we have time to arm ourselves with a long gun and fail to do so. In comparison to a 12 gauge or a .223 rifle, the "weak .38" and "strong .45" are more alike than they differ. A sobering thought.

Tactical Info

Shooting histories should be used for tactical information first and bullet performance information second. As for lab work, gelatin is homogenous and flesh and blood are heterogeneous. It is not the same, but gelatin is a good media for comparing bullet performance. What counts is point of impact and perhaps the adversary's tox sheet. (Certain drugs are not called painkillers for nothing.)

Whether or not we regard the studies as valid - and many disregard the PMA study as well as Marshall's - there is much to be learned between the lines. Bullet selection is more important in the weaker calibers. One authority, Dr. Vincent J. Di Miao, has stated that perhaps half of all

handgun bullets fail to expand in the body. The works of this respected medical examiner do not inspire confidence in smallbore hollowpoints. We are led to the conclusion that all handguns are weak instruments.

The PMA's hit probability ratings are more a product of training than anything, but are very interesting. The .45 auto and .357 Magnum revolvers showed the highest hit probability of any service handguns.

Hit probability is a side issue, but one which remains comparatively valid if not an exact tally of hits and misses.

Fun With Math

One "study" shows a 9mm cartridge that has proven to be a 50 percent stopper, Hit probability in this agency has proven to be 50 percent- far higher than average. What are the chances two felons will be stopped with two shots? Given that only one out of two rounds will hit Felon X and Felon Y, at least four shots will have to be fired to connect, and then only one opponent is likely to be stopped.

Here's the math on that probability: $.50 \times .50 = .25$. What you have is a one-in-four chance of stopping Felon X with one shot.

What about the .357 Magnum revolver, per PMA stats? It works out like this: $.75 \times .60 = .45$. The conclusion, if we were peddling this "study" as a major new book, would be this: The .357 Magnum is nearly twice as likely to produce a one-shot stop as a 9mm Luger. So there you have it. How much faith can we put in these studies?

The Answer

What stops human adversaries during a deadly attack? A brain shot or a spine shot are the only two instant incapacitators. Damage to blood bearing organs which causes rapid blood loss and a drop of pressure causes the body to shut down.

Sometimes common sense, is the best guide. Bigger bullets cause more damage. Bigger knives cut better. Bigger engines pull better. However, handgun bullets aren't very big. Accuracy can make up for power - the reverse is seldom true.