SCORING TECH

HOW FAST A GUNFIGHT ACTUALLY GOES

A short note for firearms training leads, from Scoring Tech

> "In the last 2 days, 2 LEO customers have mentioned data from Force Science Institute, so I went to look for it, and what I found was eye opening."
>
> Ken Nelson, CEO, ScoringTech

These are the numbers we keep coming back to when we talk to agencies about training. They come from Force Science, RAND and NYPD records. Sources are at the bottom.

1 About four tenths of a second to the first shot

In a Force Science study, suspects fired an average of 0.38 seconds after the gun first moved. They started with the gun in hand, at their side, pointed at the floor or at their own head, and the time includes raising it to eye level. From a waistband draw, a separate Force Science study of inexperienced shooters reported around half a second.

2 Then a shot every quarter second

After the first shot, the next ones come about every 0.25 seconds. That is close to four rounds a second.

3 Officers take close to a second

Officers are slower, which is no surprise. In Force Science's timing tests it took about a third of a second to react to a simple cue, and over half a second when there was a decision to make. An aimed first round took 0.83 seconds from a high ready, with the gun out front at shoulder height. With the gun held down behind the leg it took 1.3. By the time an officer gets that first aimed round off, a suspect already shooting could have fired two or three. Force Science's own estimate, which used a faster suspect, was three or four. Either way it is a calculation, and nobody measured it in a real fight.

4 About eight rounds from the officer

In New York in 2006, officers fired about 7.6 rounds per gunfight, and 11.1 shots were fired per incident in all.

5 Fewer than one in five hit

From 1998 to 2006, 18 percent of the rounds NYPD officers fired in gunfights hit. In the NYPD data RAND reviewed, the hit rate was 37 percent at seven yards or less and 23 percent farther out.

6 Most of it is inside seven yards

> In NYPD shootings from 1994 to 2000, 69 percent happened at 0 to 2 yards, and another 19 percent at 3 to 7.

So what do you do with that? We think it is worth timing the pieces: how long the draw takes, how long to the first hit, how long between shots, and what share of the shots hit. A qual score blends all of it into one pass or fail. Hit factor keeps time and hits on one scale, and our reports break down where each officer's time went, so you can see which piece to work on.

You do not have to change your qual to find out. A good way to start is a pilot next to the course you already shoot. If you want to talk it through, call or email. We like talking about this.

Thanks for reading!

Ken Nelson
CEO, ScoringTech

P.S. If you take one thing from this letter, time the pieces, not just the pass or fail:

- How long the draw takes
- How long to the first hit
- How long between shots
- What share of the shots hit

Hit factor keeps time and hits on one scale, and our reports show where each officer's time went. You don't have to change your qual to find out. A pilot next to the course you already shoot is a good start. For a worked example of what the timings mean in a fight, read The Bill Drill Gunfight.

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Mon to Fri, 8am to 5pm MT. You'll speak with our CEO, LEO Liaison, or DoD Liaison.

Sources

1. Suspect first shot (0.38 s from first movement of the gun, starting with the gun in hand and not raised): Force Science, "Important New Reaction-Time Study Addresses What's 'Reasonable' In Armed-Suspect Encounters" (2011). Waistband draw (around 0.5 s): Force Science, as reported in Police1, "Research: Speed and movements associated with armed assaults."
2. Suspect follow-up shots (about 0.25 s apart): Lewinski and Redmann (2009), Force Science, as reviewed in Police1, "Action vs. Reaction: The Shoot-First Fallacy."
3. Officer response to a cue (0.31 s simple, 0.56 s complex): Dysterheft, Hudson and Lewinski (2014), same article. Ready-position times (0.83 s high ready, 1.3 s with the pistol behind the leg): Force Science study reported in Police1, "How Much Do Finger Placement and Ready Position Matter?"
4. Rounds fired, hit rates: RAND, *Evaluation of the New York City Police Department Firearm Training and Firearm-Discharge Review Process*, pp. 14 to 15.
5. Distance of NYPD shootings, 1994 to 2000: NYPD SOP-9 data as compiled in T. Aveni, *Officer-Involved Shootings: What We Didn't Know Has Hurt Us* (2003).

Timing figures are averages from controlled tests and vary by person and condition. The appearance of U.S. Department of Defense (DoD) visual information does not imply or constitute DoD endorsement.