

No. 23-1633, 23-1634, 23-1641

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UNITED STATES COURT OF APPEALS  
FOR THE THIRD CIRCUIT

DELAWARE STATE SPORTSMEN'S ASSOCIATION, INC., et al.  
*Plaintiffs-Appellants*

v.

DELAWARE DEPARTMENT OF SAFETY AND  
HOMELAND SECURITY, et al.  
*Defendants-Appellees.*

On Appeal from the United States District Court for the District of Delaware  
Nos. 1:22-cv-00951, 1:22-cv-01500, 1:23-cv-00033  
The Honorable Richard D. Andrews

**BRIEF AMICI CURIAE**  
**THE INTERNATIONAL LAW ENFORCEMENT**  
**EDUCATORS AND TRAINERS ASSOCIATION,**  
**LAW ENFORCEMENT LEGAL DEFENSE FUND,**  
**NATIONAL ASSOCIATION OF CHIEFS OF POLICE,**  
**PROFESSORS OF SECOND AMENDMENT LAW,**  
**AND INDEPENDENCE INSTITUTE,**  
**IN SUPPORT OF PLAINTIFFS-APPELLEES**

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July 10, 2023

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## CORPORATE AND FINANCIAL DISCLOSURE STATEMENT

Pursuant to Federal Rule of Appellate Procedure 26.1, counsel for *amici curiae* certifies that none of the *amici* has a parent corporation and no publicly held corporation owns 10% or more of the stock of any of the *amici*.

*s/ David B. Kopel*  
July 10, 2023

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## INTEREST OF *AMICI CURIAE* <sup>1</sup>

**International Law Enforcement Educators and Trainers Association (ILEETA)** is comprised of 4,000 professional law enforcement instructors committed to reducing risk and saving lives of police officers and citizens through training enhancements for criminal justice practitioners. ILEETA's briefs were cited by Justice Breyer in *Heller* and by Justices Alito and Stevens in *McDonald*.

**Law Enforcement Legal Defense Fund** provides legal assistance to law enforcement officers. LELDF has aided nearly one hundred officers, many of whom were acquitted, mostly in cases where officers faced legal action for authorized and legal activity in the line of duty.

**National Association of Chiefs of Police** is a non-profit founded in 1967 to promote and support the law enforcement profession. Membership is limited to command staff officers and is currently over 7,000 members.

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<sup>1</sup> No counsel for either party authored this brief in whole or in part. No person or entity other than amicus and its members made a monetary contribution to its preparation or submission.



**Amici law professors** teach and/or write on the Second Amendment: Randy Barnett (Georgetown), Robert Cottrol (George Washington), Lee Francis (Mississippi College), Nicholas Johnson (Fordham), Donald Kilmer (Lincoln), George Mocsary (Wyoming), Joseph Muha (Akron), Joseph Olson (Mitchell Hamline), Michael O’Shea (Oklahoma City), and Glenn Reynolds (Tennessee). Oft-cited in Second Amendment cases, they include the authors of the first law school textbook on the Second Amendment, as well as many other books and law review articles on the subject. In this Circuit, the textbook Johnson et al, *Firearms Law and the Second Amendment* (Aspen: 3d ed. 2022), has been cited in *Range v. Attorney General* (2023) (en banc) (Krause, J., dissenting) and *Drake v. Filko* (2013) (Hardiman, J., dissenting).

**Independence Institute** is the nation’s second-oldest state level think tank, founded in 1985 on the eternal truths of the Declaration of Independence. The scholarship and amicus briefs of the Institute’s Research Director, David Kopel, and of the Institute’s Senior Fellow in Constitutional Jurisprudence, Robert Natelson, have been cited in nine U.S. Supreme Court cases—

including *Heller*, *McDonald*, and *Bruen*—by Justices Alito, Breyer, Kagan, Roberts, Stevens, and Thomas, and also by then-Judges Gorsuch and Kavanaugh. Kopel has been cited in this Circuit in *Frein v. Pennsylvania State Police* (2022), *Folajtar v. Attorney General* (2020), and *Association of New Jersey Rifle and Pistol Clubs Inc v. Attorney General New Jersey* (2020) (Matey, J., dissenting).

*Amici* believe the perspectives of law enforcement personnel and organizations, Second Amendment academics, and public policy researchers may be of assistance to this Court in evaluating the constitutionality of the Delaware statute at issue.

All parties have consented to the filing of this brief.

## SUMMARY OF ARGUMENT

The District Court made astonishing and clearly erroneous claims that the firearms at issue in this case are “exceptionally dangerous.” They are not.

Rifles, by their nature, are more powerful than handguns. The rifles banned by Delaware are *less* powerful than many non-banned common rifles.

Also clearly erroneous are claims that the banned guns are more likely than other guns to penetrate building walls or other barriers.

Research shows that in mass shootings, handguns cause more damage than do so-called “assault weapons.”

The firearms banned by the statute are often chosen by law enforcement officers and by law-abiding citizens for the same reasons: their features make them excellent for lawful defense of self and others.

The District Court’s and defendants’ calumnies against the firearms at issue and their owners defame law enforcement officers. The ordinary arms of civil peace officers are not weapons of war. Contrary to the statute’s implication, American law enforcement

officers are not a militaristic army of occupation. American policing is by consent, not from above.

## **ARGUMENT**

While the statute at issue bans many arms, this brief focuses on the most common type. The AR-15 rifle was the fifteenth firearm patented by the ArmaLite Company, in 1956. ArmaLite later sold the rights to Colt's Manufacturing. Although the patent is long-expired, Colt's still owns the rights to the product name "AR-15." While firearms that improve on the original AR-15 are made by many companies, none of them are an "AR-15," nor claimed to be one. For accuracy, this brief uses "AR" or "ARs" to refer to the broad class.

### **I. AR rifles have less wounding power than many other rifles.**

According to the District Court, "assault weapons" such as AR rifles cause "catastrophic" wounds, with "multiple organs shattered," bones "exploded," soft tissue "absolutely destroyed," and exit wounds "a foot wide." App.28 (quoting Defendants' Brief). Like all guns, ARs and similar rifles can cause severe or fatal wounds. The wounds caused by ARs typically are no more serious or lethal

than wounds caused by other rifles, by shotguns, and even by some powerful handguns.

**A. Accounts of “catastrophic” AR-15 wounds in Vietnam are preposterous and were proven false by subsequent testing.**

Defendants’ brief to the District Court cited military field testing from Vietnam in 1962 reporting that the select-fire AR-15 (later renamed the “M16”) inflicted “catastrophic wounds,” including one round that “took [the head] completely off” an enemy soldier, while another round “in the right arm, took it completely off, too.”<sup>2</sup> Wounds to the torso caused “the abdominal cavity to explode” and all AR-15 wounds were fatal, including “extremity hits.” These gruesome anecdotes subsequently were exposed as gross exaggerations designed to convince the military to adopt the rifle.

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<sup>2</sup> As of 1962, “AR-15” was Colt’s name for the firearm that it was trying to convince the U.S. military to adopt. That gun was “select-fire,” meaning that the user could flip a switch to make the gun fire either automatically (*i.e.*, as a machine gun, with a continuous stream of bullets, as long as the trigger was kept depressed) *or* semi-automatically (one shot per trigger press). In 1963, Colt’s changed the name of that gun to “M16.” A semiautomatic-only version was introduced for sale to the public as the “AR-15.” The District Court accurately did not asserts that the guns at issue in this case are machine guns.

The Vietnam testing was conducted as part of Project AGILE, a research program initiated by the Defense Department's Advanced Research Projects Administration (DARPA). At the time, the military was considering whether to replace the older M14 with the selective-fire AR-15 as its primary combat rifle. Project AGILE supplied AR-15s to South Vietnamese troops for field trials. The subsequent report included claims of massive injuries from the AR-15, including two amputations and a decapitation. Advanced Research Projects Agency, *Test of Armalite Rifle, AR-15*, Annex A, at 5, 7 (July 31, 1962).<sup>3</sup>

The claims were never confirmed. The Army's Wound Ballistic Laboratory tested the lethality of the rifle in gelatin, animals, and cadavers but could not duplicate the "theatrically grotesque wounds" reported by Project AGILE. C.J. Chivers, *THE GUN* 283, 284-88 (2010); *see also* H. Blake Stevens & Edward Ezell, *THE BLACK RIFLE: M16 RETROSPECTIVE* 110-16 (1994).

The testing included hollow-point rounds; while not used by the military, hollow-points are ubiquitous among American law

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<sup>3</sup> <https://apps.dtic.mil/sti/pdfs/AD0343778.pdf>.

enforcement, and often chosen by citizens.<sup>4</sup> In general, hollow-points produce relatively more destructive wounds. Yet “even the hollow-points failed to duplicate anything like the spectacular effects recorded by the Vietnamese unit commanders and their American advisors, which had subsequently been taken as fact and much used in the . . . campaign to sell the AR-15.” Stevens & Ezell at 116.<sup>5</sup>

C.J. Chivers, a Pulitzer Prize-winning *New York Times* journalist, extensively researched the testing for his book *The Gun*. “No matter what they did, they were unable to reproduce the effects that the participants in Project AGILE claimed to have seen.” Chivers at 288.

The Wound Ballistic Laboratory’s study was kept secret for more than four decades. As a result, “at the most important time, during

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<sup>4</sup> This brief follows the law enforcement convention of describing all persons who are not law enforcement officers as “citizens.” Using “civilians” to describe non-LE persons creates the false and harmful impression that law enforcement officers are soldiers.

<sup>5</sup> Ezell served as Curator of the National Firearms Collection at the National Museum of American History, which is part of the Smithsonian Institution. He founded the Institute for Research on Small Arms in International Security.

the early and mid-1960s, the Project AGILE report, with its implausible tales, remained uncontested. The AR-15 continued to rise, boosted by a reputation for lethality and reliability that it did not deserve.” *Id.* at 289.

Dr. Martin Fackler, a military trauma surgeon, served as director of the Army’s Wound Ballistics Laboratory for 10 years; he was one of the world’s foremost wound ballistics experts. He recounted claims in the 1960s and 70s about the bullets supposedly causing “massive” and “devastating” injuries; these claims were disproven or contradicted by other reports. Martin Fackler, *Gunshot Wound Review*, 28 ANNALS OF EMERGENCY MEDICINE 194, 194-95 (Aug. 1996). Delegates to war surgery conferences in the early 1970s “reported no unusual problems associated with ‘high-velocity’ bullet wounds in Vietnam. There were no reports of rifle bullet wounds causing traumatic amputations of an extremity.” *Id.*

Dr. Fackler observed: “In my experience and research, at least as many M16 users in Vietnam concluded that [the 5.56mm M193 round] produced unacceptably minimal, rather than ‘massive,’



wounds.” Martin Fackler, *Literature Review*, 5 WOUND BALLISTIC REV. 39, 40 (Fall 2001).

**B. Within the military, complaints about the AR bullets’ relatively weak stopping power are longstanding.**

The District Court mistakenly believed that the banned firearms routinely inflict “severe wounds” over long distances. *See* App.27. It is true that AR rifles, like other rifles, are more effective at longer ranges than are handguns or shotguns. However, many common rifles are effective at *longer* ranges than are the .223 Remington or 5.56mm rounds used in most ARs. *See* Jim Harmer, *Maximum Effective Range Chart for All Rifle Cartridges*, Backfire (Jan. 29, 2022).<sup>6</sup>

As described in Part I.A., footnote 2, ever since 1963 “AR-15” has been used to describe a semiautomatic rifle made for civilians, whereas “M16” has been used to describe a military machine gun. Both guns fire a similar cartridge. The military M16 (and its successor, the M4) use the 5.56mm NATO round, which is nearly identical in size to the .223 Remington caliber designed to kill

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<sup>6</sup> <https://backfire.tv/maximum-effective-range-rifle/>.

“varmint,” that is coyotes, rabbits, and similar game. In the citizen market, the majority of AR rifles are manufactured to use either .223 (inches) or 5.56mm caliber. The latter is the metric equivalent of the former.

One senior military officer testified to the U.S. Senate that the 5.56mm cartridge “is simply too small for modern combat. Its lack of mass limits its range . . . . The civilian version of the 5.56-mm bullet was designed as a ‘varmint killer’ and six states prohibit its use for deer hunting because it is not lethal enough to ensure a quick kill.” United States Military Small Arms Requirements, Hearing Before the Subcommittee on Airland of the Senate Committee on Armed Services, Cong. S. Hrg. 115-425, at 12 (May 17, 2017) (statement of Major General Robert H. Scales). *See generally* E. Gregory Wallace, “Assault Weapon” *Lethality*, 88 TENN. L. REV. 1, 7-13 (2020) (analysis of 5.56 round’s combat effectiveness).

Soldiers have complained that the small 5.56mm round lacks sufficient effectiveness in killing or incapacitating the enemy. According to combat veteran and small arms expert Jim Schatz,

“The disturbing failure of the 5.56x45mm caliber to consistently offer adequate incapacitation has been known for nearly 20 years.” Jim Schatz, *Do We Need A New Service Rifle Cartridge? End User Perspective and Lessons Learned*, SMALL ARMS DEF. J. 119 (Spring 2011).<sup>7</sup> See also Glenn Dean & David LaFontaine, *Small Caliber Lethality: 5.56mm Performance in Close Quarters Battle*, WSTIAC Q., Jan. 2008, at 3 (describing multiple reports from U.S. soldiers in Afghanistan that when using 5.56mm rounds in close quarters engagements they “were experiencing multiple ‘through-and-through’ hits on an enemy combatant where the target continued to fight”).<sup>8</sup>

Schatz described one Special Forces (SF) mission in Afghanistan when an insurgent was shot seven or eight times in the torso, got back up, climbed over a wall, and reengaged other SF soldiers, killing a SF medic. The insurgent then was shot another six-to-eight times from about 20-30 yards before finally being killed by a SF soldier with an M1911 handgun. Schatz at 125.

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<sup>7</sup> <https://www.yumpu.com/en/document/read/37272962/do-we-need-a-new-service-rifle-cartridge-hkprocom>.

<sup>8</sup> <https://perma.cc/682N-7E6S>.

Mark Bowden's bestselling book *Black Hawk Down* vividly recounted the less-than-lethal performance of the Army's 5.56mm bullet in the Battle of Mogadishu in 1993. One Delta operator's rounds "were passing right through his targets. . . . The bullet made a small, clean hole, and unless it happened to hit the heart or spine, it wasn't enough to stop a man in his tracks. [The operator] felt like he had to hit a guy five or six times just to get his attention." Mark Bowden, *BLACK HAWK DOWN: A STORY OF MODERN WAR* 208 (1999).

Perhaps because of reports such as the above, the military recently decided to adopt the larger-caliber 6.8mm cartridge. C. Todd Lopez, *Army Announces 2 New Rifles for Close-Combat Soldiers*, U.S. Dep't of Defense (Apr. 22, 2022).<sup>9</sup>

**C. Because of the small size of the most common AR bullets, their terminal performance is low compared to other rifles and to shotguns.**

The District Court found that "[b]ecause an assault rifle bullet travels at multiple times the velocity of a handgun bullet, it imparts an 'exponentially greater' amount of energy upon impact." App.28. This is literally true because any number can be an exponent of any

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<sup>9</sup> <https://perma.cc/34NR-AGRW>.

other number. As for the energy difference between a 9mm handgun round and a 5.56mm AR rifle round, the exponent is 1.233.

The energy that a bullet, or other moving object, imparts to its target is called *kinetic energy* (KE). KE is calculated by a formula based on the moving object's velocity and its mass:  $KE = \frac{1}{2} \times M \times V^2$ .

Bullets from almost all modern rifles travel much faster than handgun bullets. By definition, rifles have longer barrels than do handguns. So compared to a handgun bullet, a rifle bullet receives a longer, more powerful push from the expanding gunpowder gas. Therefore, the rifle bullet has higher velocity. More velocity does not necessarily mean greater wound severity; a ping-pong ball and a rifle bullet fired at the same velocity will produce very different terminal results (effects on the target).

The District Court's statement about "energy" omitted a necessary element in the KE equation: the mass of the projectile. Math error is plain error. *See, e.g., United States v. McCoy*, 508 F.3d 74, 79-80 (1<sup>st</sup> Cir. 2007) (district court's math error led to a sentence about the guideline range).

Consider the effect of weight on wounding effects of three common cartridges. The diminutive .22LR is a favorite for plinking. Some common .22LR bullets weigh 30 to 32 grains. The .44 caliber Magnum handgun, a powerful defensive revolver, shoots bullets of around 200 grains. (Some smaller, some larger). The 12-gauge 00-buckshot shotgun cartridge, so named because it is a favorite for deer hunting, fires nine pellets all at once, each of them weighing 54 grains. See Todd Woodward (ed.), *CARTRIDGES OF THE WORLD* (17th ed. 2022).<sup>10</sup> At 15 feet, all of the above will have approximately the same velocity. The nine shotgun pellets will cause far more tissue disruption than the single big handgun bullet, and the big handgun bullet will cause far more disruption than the tiny rifle bullet. See Martin Fackler, *Civilian Gunshot Wounds and Ballistics: Dispelling the Myths*, 16 *EMERG. MED. CLIN. NORTH AM.* 17, 23 (1998).

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<sup>10</sup> Rifle and handgun calibers are the measure of the diameter of the bore (interior cavity in the barrel) for a particular bullet. The measurement can be expressed in inches (e.g., .22, .223, .30, .308, .38, .44, .45) or in millimeters (5.56, 6.8, 7.62, 9, 10). Shotgun caliber is measured by “gauge.” Among the most popular gauges in the U.S. today is 12-gauge. (This means that a lead ball the size of the bore weighs 1/12<sup>th</sup> of a pound.) The bore of a 12-gauge is .73 inches.

The following table compares the typical weight, velocity, and kinetic energy of some modern handgun, rifle, and shotgun projectiles, measured at the firearm’s muzzle and at a distance of 100 yards.

Caliber	Bullet Weight (Grains)	Velocity @Muzzle ft/s	Velocity @100 yds ft/s	Energy @Muzzle ft lbs	Energy @100 yds ft lbs
<b>Handguns</b>					
9 mm	115	1140	954	332	232
.357 Magnum	125	1500	1147	624	365
.40 S&W	175	1010	899	396	314
.44 Magnum	200	1500	1196	999	635
.45 ACP +P	230	950	872	461	385
<b>Long guns</b>					
<b>.223/5.56</b>	<b>55</b>	<b>3240</b>	<b>2854</b>	<b>1282</b>	<b>995</b>
.243 Winchester	90	3150	2911	1983	1693
6.5 Creedmoor	143	2700	2557	2315	2076
.308 Winchester	165	2700	2496	2670	2282
.30-06	178	2750	2582	2989	2635
.300 Win. Mag	180	2960	2766	3502	3058
.338 Lapua Mag	270	2800	2680	4699	4304
.50 BMG	750	2820	2728	13241	12388
12-ga shotgun slug	438	1610	1139	2521	1262

Wallace, “Assault Weapon” *Lethality*, at 44-45.<sup>11</sup>

As the table shows, rifles of all sorts have higher velocity than handguns or shotguns. Compared to other rifles, the most common

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<sup>11</sup> Figures for some additional rifles are provided in David Kopel & Gregory Wallace, *How Powerful Are AR Rifles?*, The Volokh Conspiracy (Feb. 27, 2023), <https://perma.cc/3ZDC-LA5E>.

ammunition for AR rifles has slightly higher velocity. Compared to many other rifles, the AR uses a smaller bullet. The result is that the AR imparts *less* kinetic energy to the target than do many other rifles, including the classic all-around big game rifle cartridge, the .30-06. (Created in 1906, the .30-06 was originally used for the standard American military service rifle of the first decades of the twentieth century, the 1903 bolt-action Springfield.)

The .223 or 5.56 bullets also strike with much less energy than a shotgun slug. The slug, often used for hunting deer and similar game, weighs about 437 grains.

Dr. Fackler calls the .223 round “a ‘varmint’ cartridge, used effectively for shooting woodchucks, crows, and coyotes.” Martin Fackler, *Literature Review*, 5 WOUND BALLISTIC REV. 39, 41 (Fall 2001). In some states, it is illegal to hunt deer or larger game with the .223 cartridge because it is considered too *underpowered* to result in clean, humane kills. *See, e.g.*, 2 Code of Colo. Reg. 406-2-I-203(A)(1); 4 Va. Admin. Code 15-270-10; Wash. Admin. Code 220-414-020(1)(c).



## **D. Claims about ARs’ “massive wounding” are false.**

### **1. Comparisons to handgun wounds prove little.**

The District Court’s conclusion that “assault weapons” are “exceptionally dangerous” was based in part on comparing them to handguns in wounding power. App.28. AR rifles do fire bullets at might higher velocity than handguns do; so do virtually all rifles. Comparing the wounding effects of AR bullets to handguns to prove the “devastating” wounding power of the former is like comparing a Prius to a Model T to show that the Prius is faster than most automobiles. The fact that rifles are generally more powerful than handguns proves nothing special about any given subset of rifles.

### **2. The AR’s wounding power is no more severe than non-banned long guns and even some powerful handguns.**

Absent from the District Court’s descriptions of AR wounding power was any comparison to wounds caused by non-banned rifles and shotguns. The Army’s Wound Ballistics Laboratory examines all aspects of wounds from various arms, including permanent and temporary cavities in the target, penetration depth, and deformation and fragmentation of bullets. Compared to .223 and

5.56mm bullets, the wound profiles of bullets in very common hunting calibers, such as .30-30 and .308, are at least as extensive and typically more so. Martin Fackler, *Wound Profiles*, 5 WOUND BALLISTIC REV. 25, 29-31, 33-34 (Fall 2001).

Most gun crimes, including mass shootings, take place at close range. Dr. Fackler observes that at close range “the 12 gauge shotgun (using either buckshot or a rifled slug) is far more likely to incapacitate than is a .223 rifle. The 12 gauge shotgun is simply a far more powerful weapon.” Martin Fackler, *Questions and Comments*, 5 WOUND BALLISTIC REV. 5 (Fall 2001). Dr. P.K. Stefanopoulos, trauma surgeon and former career military officer who has written extensively on wound ballistics, states that at distances of less than 10 feet “the shotgun produces the most devastating injuries of all small arms.” P.K. Stefanopoulos, et al., *Wound Ballistics of Firearm-Related Injuries—Part 1: Missile Characteristics and Mechanisms of Soft Tissue Wounding*, 43 INT. J. ORAL MAXILLOFAC. SURG. 1445, 1453 (2014).

Powerful handgun rounds can cause similar wounding effects to the AR. “A similarly deforming or disintegrating bullet from a

powerful handgun cartridge (e.g., Magnum) can also produce ‘high-energy’ effects to tissue, resembling those from a much faster assault rifle bullet.” P.K. Stefanopoulos, et al., *Wound Ballistics of Military Rifle Bullets: An Update on Controversial Issues and Associated Misconceptions*, 87 J. TRAUMA ACUTE CARE SURG. 690, 696 (2019).

Every misused firearm is dangerous and potentially lethal. The notion that ARs are exceptionally powerful compared to other common firearms is clearly erroneous.

### **3. Descriptions of AR wounds are often embellished.**

The District Court relied on a media report quoting Dr. Martin Schreiber that exit wounds from an AR-15 can be “a foot wide.” App.28 (citing Doc. 37-2, Ex. 12 at 2, 6). Studies of the subject indicate otherwise.

One study measured exit holes from the 5.56mm round using ballistic gelatin covered with pig skin (designed to simulate human tissue). The average size of the exit hole under peak conditions—when the temporary cavity was maximized—was 2.4 inches. Annette Theiraut, et al., *The Varying Size of Exit Wounds From*

*Center-Fire Rifles as a Consequence of the Temporary Cavity*, 127  
INTER. J. LEGAL MED. 931 (Sept. 2013).<sup>12</sup>

Another study examined forensic autopsy records from 27 persons who were killed with 32 rounds of 5.56mm ammunition during dispersion of a mass protest in Bangkok in 2010. The study did not examine victims who were wounded but survived. *See* Vichan Peonim, et al., *Entrance and Exit Wounds of High Velocity Bullet: An Autopsy Analysis in the Event of Dispersing the Mass Rally in Bangkok Thailand, May 2010*, 23 LEGAL MED. 10 (Nov. 2016). Of the 32 rounds studied, 7 produced no exit wounds because the bullet stopped before exiting; 12 passed straight through the body, producing exit wounds in round or oval shapes measuring 0.6 inches or less; and 2 caused only glancing lacerations on the head. The remaining 11 rounds caused exit wounds in various sizes and shapes. The five largest were stellate (star) shaped wounds

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<sup>12</sup> A “temporary cavity” is the transient displacement of tissue caused by the pressure wave from a fast-moving bullet. Fackler, *Gunshot Wound Review* at 197–99. Temporary cavitation can cause significant wound damage; the severity of the injury produced is quite variable, erratic, and highly dependent on anatomic and physiologic considerations. *See id.* at 199.

measuring 2.76 x 2.36 inches, 2.95 x 2 inches, 2.36 x 1.78 inches, 2 x 1.18 inches, and 1.18 x 1 inches. None of the exit wounds in either study were “a foot wide.”

Exaggerations are nothing new. Thirty-three years ago, Dr. Fackler described how media accounts embellished the injuries suffered when five children were killed and 30 wounded in the 1989 elementary school shooting in Stockton, California, the crime that created the national “assault weapon” controversy. Dr. Fackler conducted ballistics testing on the ammunition used in the criminal’s semiautomatic AKS rifle; that rifle’s 7.62mm rounds are around 123 grains, more than double the typical 55-grain weight of .223/5.56mm AR bullets. Dr. Fackler also reviewed the autopsies of the children murdered. He explained:

Much of the media coverage generated by the Stockton shooting has contained misstatements and exaggerations. The myth of “shock waves” resounding from these “high velocity” bullets “pulverizing bones and exploding organs” (even if they were not hit by the bullet) “like a bomb” going off in the body was repeated by the media, in certain cases even after they were furnished solid evidence that disproved these absurdities. None of the autopsies showed damage beyond the projectile path. One “expert” was quoted as stating that the death rate from “assault weapons . . . approaches 50[%].” Another, reporting on the effects of

“high speed” bullets, stated that “most of those hit in an extremity will end up with amputations. If you’re hit in the trunk, it becomes a lethal injury. . .” In the Stockton schoolyard, the death rate was 14% and none of the [wounded] victims died later or required extremity amputation.

Martin Fackler, et al., *Wounding Effects of the AK-47 Rifle Used by Patrick Purdy in the Stockton, California, Schoolyard Shooting of January 17, 1989*, 113 AMER. J. FORENSIC MED. & PATH. 185, 187-88 (1990).

So-called “assault weapons” are very dangerous in the wrong hands, and so are all other firearms. The notion that “assault weapon” bullets are “exceptionally dangerous” compared to other firearms ammunition is insupportable.

## **II. AR rifles are not “exceptionally dangerous” just because they penetrate barriers the same as do other common rifles.**

### **A. Body armor**

The District Court found that “assault weapon” bullets pose a particularly high risk to law enforcement officers because they

“readily penetrate” body armor. App.28. But this is true of *all* centerfire rifles.<sup>13</sup>

Ordinary law enforcement officers wear soft body armor that is designed to stop rounds from handguns and shotguns. Soft body armor does not stop rifle bullets. Those require hard plates of steel, ceramic, or composites. Combat soldiers usually wear hard plates, and so do law enforcement officers in high-risk situations, such as hostage rescue. *See Body Armor Performance Standards*, National Inst. of Justice (Feb. 22, 2018).<sup>14</sup>

Indisputably, centerfire rifles are more likely than handguns to penetrate soft body armor. The fact does not prove that ARs or any other subset of centerfire rifles are “exceptionally dangerous” compared to centerfire rifles in general.

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<sup>13</sup> Most modern ammunition is “centerfire.” That is, the gunpowder explosion is initiated by the gun’s firing pin striking a cup of fulminate contained in the center of the base of the cartridge. The most popular cartridge that is *not* centerfire is the diminutive .22LR; it is a “rimfire,” meaning that the fulminate is contained in a rim inside the base of the cartridge. All the firearms listed in the Table in Part I.C. are centerfire.

<sup>14</sup> <https://perma.cc/7YSY-4YYU>.

## B. Walls

Defendants may assert, as they did to the District Court, that “assault weapons” are too dangerous for home defense because the bullets are more likely to penetrate walls and endanger innocent bystanders. Opp. Br. at 18. That is false. Overpenetration is a risk with *all* firearms. Almost all handgun, rifle, and shotgun rounds will pass through multiple walls. Handgun rounds will penetrate several layers of sheetrock as well as exterior house walls. See R.W. Scheifke, *Penetration of Exterior House Walls by Modern Police Ammunition*, Canadian Police Research Centre (Oct. 1997).<sup>15</sup>

The AR’s .223 and 5.56 bullets generally penetrate *less* though building materials than do common handgun rounds. The difference between handgun and AR bullets is how they behave when passing through walls. The AR’s .223/5.56mm rounds are thinner and longer than most handgun rounds, and they have smaller mass. The differences mean that a handgun round typically remains relatively stable, continuing to move forward; whereas the AR bullet is more likely to fragment, lose stability, and/or deviate

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<sup>15</sup> <https://perma.cc/8V6N-8MK9>.



from its original axis of flight (“yaw”). In any case, the AR bullet sheds energy rapidly due to the larger surface area hitting the wall. In the words of the founder and senior instructor of the Los Angeles Police Department’s Tactical Rifle Team, “concerns about overpenetration and the danger to the populace presented by missed rounds have been greatly exaggerated . . . [T]he 5.56mm/.223 is relatively safer than pistol bullets for everyone in close-quarter-battle (CQB) application.” Gabriel Suarez, *THE TACTICAL RIFLE: THE PRECISION TOOL FOR URBAN POLICE OPERATIONS* 38 (1999).

One study found that .223/5.56 bullets fired through an interior wall had “significantly less penetration” than popular handgun and 12-gauge shotgun rounds. The researcher concluded that “stray 5.56mm/.223 bullets seem to offer a reduced risk of injuring innocent bystanders . . . where bullets miss their intended targets and enter or exit structures.” Gary Roberts, *The Wounding Effects of 5.56MM/.223 Law Enforcement General Purpose Shoulder Fired Carbines Compared with 12 GA. Shotguns and Pistol Caliber*

*Weapons Using 10% Ordnance Gelatin as a Tissue Simulant*, 3 WOUND BALLISTICS REV. 16, 23-24 (1998).

The above research, plus practical experience, is one reason law enforcement officers often use ARs for raiding buildings and hostage situations, especially in urban areas. See Boone Decl. at J.A. 2168-69, in *Kolbe v. Hogan*, 849 F.3d 114 (4th Cir. 2017) (en banc).<sup>16</sup>

As a Massachusetts Municipal Police training manual states, firearms like the AR are less dangerous to bystanders because “the most popular patrol rifle round, the 5.56mm NATO (.223 Remington) will penetrate fewer walls than service pistol rounds or 12 gauge slugs.” Massachusetts Municipal Police Training Committee, *Basic Firearms Instructor Course: Patrol Rifle 3* (Sept. 2007).<sup>17</sup>

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<sup>16</sup> Boone is a firearms and ballistics expert, firearms trainer, and former FBI agent who directed the FBI Ballistic Research Facility for 15 years.

<sup>17</sup> <https://perma.cc/M8VW-DUXR>.

### **III. AR rifles are not “exceptionally dangerous” even though they have been used in some mass shootings.**

The District Court cited statistics about “assault weapons” being used in mass public shootings to show that such firearms are “exceptionally dangerous” and justifiably banned. App.25-27, App.33-34. The District Court did not address next question: Would there have been fewer injuries or deaths if the criminal had used a different firearm?

Criminals armed with handguns perpetrated high-casualty shootings at Virginia Tech (58), Ft. Lauderdale (48), Killeen, Texas (Luby’s Cafeteria) (45), Ft. Hood (45), and Thousand Oaks (33). See The Violence Project, *Mass Shooter Database* (vers. 7 5.28.23).<sup>18</sup>

Research shows that “assault weapons” are less deadly in mass public shootings than handguns. One study examined the relationship between the type of firearm used, wounding characteristics, and probability of death in mass public shootings. See Babak Sarani, et al., *Wounding Patterns Based on Firearm Type in Civilian Public Mass Shootings in the United States*, 228 J.

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<sup>18</sup> <https://perma.cc/6U63-3E7J>.

AMER. COLLEGE SURGEONS 228 (March 2019). The researchers studied firearm types and autopsy reports for 232 victims from 23 mass shootings, including high-casualty shootings with “assault weapons” at Orlando and Las Vegas. The researchers, to their surprise, found that that public shootings with handguns are more lethal than those with rifles because they result in more wounds per victim and more injuries to vital organs. *Id.* at 228-29, 232-33. “All of us were shocked,” Dr. Sarani said. “We came to the table with our bias that an assault weapon would be worse.” Carolyn Crist, *Handguns more lethal than rifles in mass shootings*, Reuters (Dec. 31, 2018).<sup>19</sup>

Victims shot with a handgun were almost four times more likely to have three or more wounds compared with those shot with a rifle. Thus “the probability of death is higher for events involving a handgun than a rifle.” Sarani at 232. Twenty-six percent of victims shot with handguns and 16% shot with shotguns had multiple fatal organ injuries; only 2% of those shot by a rifle had two or more fatal organ injuries. *Id.* Wounds to the brain and heart, which have

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<sup>19</sup> <https://perma.cc/N9VY-CVUX>.

higher fatality rates than gunshots to other organs, were most likely to occur when handguns were used. *Id.* at 233. Victims shot with rifles were twice as likely to have a preventable death (if medical care were rendered in time) than those shot with other firearms. *Id.* at 231.

**IV. Features that make AR rifles well-suited for lawful defense do not make them “exceptionally dangerous.”**

Defendants claim that Delaware’s “assault weapons” ban does not impose a significant burden on the right of armed self-defense because the arms are too dangerous for that purpose. To the contrary, the very characteristics that defendants decry show the exceptional utility of the AR and similar firearms for lawful self-defense.

As detailed in Parts I-III, *supra*, defendants portray the most common AR ammunition as exceptionally dangerous because it is said to be extremely powerful. The opposite is true. The wounds are similar to or less than many other common arms. Because of its lesser capacity to penetrate walls, it can be the safest choice for lawful defense of self and others.

This Part IV addresses defendants' similar claims about the banned firearms themselves.

**A. Why AR rifles are often chosen for lawful defense by law enforcement officers and citizens.**

Most law enforcement patrol cars carry a rifle, a shotgun, or both. The patrol rifle is usually a semi-automatic that defendants label an "assault weapon." Officers often choose the very arms that Delaware bans.

American citizens have always looked to law enforcement for guidance in choosing defensive firearms. This is prudent, because law enforcement firearms are selected with care. Officers choose their duty arms for only one purpose: the lawful defense of innocents.

The most important reason why citizens can and often should copy law enforcement officers' firearms selections is to ensure that citizens will have reliable and sturdy firearms for defense of self and others. These arms will be well-suited for defense against violent criminals, and these arms will be appropriate for use in civil society, because officers' typical arms are not military arms.

It is true that an AR rifle with .223/5.56mm ammunition is not particularly powerful compared to other rifles. *See* Parts I-III. However, firepower is not the only characteristic that lawful defenders care about.

First, the gun is easier to shoot safely because it is easier for the user to control. The less the recoil, the easier to shoot accurately. All semi-automatics firearms—including rifles, shotguns, and handguns—reduce recoil; they use some of the recoil energy from the gunpowder explosion to eject the empty shell case and load a fresh round of ammunition into the firing chamber. Because .225/5.56mm bullets are smaller than most, they need less gunpowder. Therefore, the AR is relatively low recoil rifle.

The AR is lightweight. That is what the “Lite” in “ArmaLite” stands for. The ArmaLite Corporation was founded by Fairchild Engine and Airplane, expert in lightweight materials. Low weight and low recoil make the AR an especially good choice for some people with relatively less upper body strength.

The AR is highly customizable. The multiple rails along the barrel and elsewhere make it easy to attach a scope, flashlight, laser sight, backup sight, bipod, and/or sling.

All firearms have advantages and disadvantages. The 12-gauge shotgun is the most likely to deliver a fight-stopping hit at close range. But it has strong recoil.

Handguns are superior in portability and maneuverability. They can be fired one-handed. They also require greater skill to shoot accurately, especially beyond very close range. *See Wallace, "Assault Weapon" Lethality at 34.*

Low-recoil rifles are the easiest to shoot accurately at close or medium range. Higher-recoil rifles perform better at long distance, and they have better stopping power.

There is no "best" type of gun. Different guns are best in different situations. That is why law enforcements officers usually have a handgun in a holster and different arms in the patrol car. Many citizens also have several different arms. The Second Amendment guarantees citizens the individual right to choose any common arm.



## **B. Pistol grips improve accuracy.**

The District Court pointed to “military” features that “increase their lethality,” such as “pistol grips.” App.27.

Responsible firearms users do their best to keep the gun stable. When shooting a long gun (rifle or shotgun), the user holds the forward part of the gun with the nondominant hand.<sup>20</sup>

A “pistol grip” on a long gun is a handle to hold the forward part of a long gun. Likewise, a “pistol grip” is a handle to hold a pistol (handgun).

Good handles on any gun improve stability, accuracy, and safety. It is difficult to imagine the constitutionality of a statute that reduces accuracy.

The various other features of so-called “assault weapons” that defendants denounce—such as adjustable stocks that improve ergonomic fit—serve to improve safety, such as by making the firearm easier to control and more accurate. *See* David Kopel,

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<sup>20</sup> The dominant hand is for the middle of the gun, controlling the trigger.

*Rational Basis Analysis of “Assault Weapon” Prohibition*, 20 J. CONTEMP. L. 381 (1994).

**V. The statute and the opinion below implicitly defame law enforcement officers and harm community relations.**

Hypothesize the findings below and the arguments of defendants are accurate. If so, the banned “assault weapons” are useless for self-defense and are instead made for mass homicide; one shot splits a body in half, severs a limb, leaves a wound a foot wide. Every characteristic these arms possess is designed for mass shooting.

According to the General Assembly of Delaware: These arms are so hideous—so useless for anything except murder—that no one may have them. Except the agents of the government. DEL. CODE ANN. tit. 11, § 1466(a),(b).

Non sequitur.

Amici reject the libel that the ordinary arms of American peace officers are the weapons of militarized mass killers.

Which of the following statements is correct?

- “Officer X shot the suspects with a common rifle, well-suited for lawful defense of self and others.”

- “Officer X shot the suspects with a weapon whose only purpose is mass killing.”

The first statement is accurate. The second statement inflames anger and hatred against law-abiding law enforcement officers.

If the second statement were true—if so-called “assault weapons” really severed limbs and so on—there would be no justification for the government employee exemption for routine law enforcement purposes. The government of Delaware governs by civil law, not martial law.

The statute envisions policing from above, employing weapons of war. It is the opposite of policing by consent. In the United States of America, law enforcement officers are part of their communities, not above them. Law-abiding law enforcement officers are servants of the people and not their masters.

The statute in question is opposite. It exemplifies an attitude that implicitly denigrates law enforcement officers by treating them like an occupying army. Such negative attitudes make the public less willing to cooperate with law enforcement. The attitudes damage community relations.

## CONCLUSION

The arms prohibited by the statute are very useful for lawful defense of self and others.

The assertions against them are implausible.

The decision below should be reversed.

Respectfully submitted,

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DATED: July 10, 2023

## CERTIFICATE OF COMPLIANCE

1. This brief complies with the type-volume limitation of Fed. R. App. P. 29(a)(5) because according to Microsoft Word contains 6,380, excluding the parts exempted by Fed. R. App. P. 32(f).
2. This brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type-style requirements of Fed. R. App. P. 32(a)(6) because it has been prepared in a proportionally spaced typeface in Century Schoolbook 14-point font.
3. The virus check was performed by Webroot SecureAnywhere CE 23.3, version 9.0.35.12, and did not indicate any viral presence.
4. I am a member of the Third Circuit bar. I am admitted to practice in the State of Colorado, no. 15872.

*s/ David B. Kopel*  
July 10, 2023

## CERTIFICATE OF SERVICE

I hereby certify that on July 10, 2023, I electronically filed the foregoing with the Clerk of Court for the United States Court of Appeals for the Third Circuit by using the CM/ECF system. I certify that all participants in this case are registered CM/ECF users and that service will be accomplished by the CM/ECF system.

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*s/ David B. Kopel*  
July 10, 2023