NOTE

HALF-COCKED: "SMART GUN" MANDATES ARE PREMATURE AND UNCONSTITUTIONAL UNDER THE PREVAILING "UNDUE BURDEN" TEST

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INTRODUCTION

American gun-owners may need to spend more than $205 billion to replace each of their approximately 114 million legally owned handguns[1] with weapons equipped with "smart gun" technology.[2] Although the technology for "smart guns" — otherwise referred to as "personalized" or "authorized-user recognition" weapons — has been available for many years,[3] the guns have yet to gain any sort of traction in the firearms marketplace.[4] This is true, despite claims by proponents that such weapons could make homes, children, and law enforcement safer.[5] A number of factors have limited Americans' readiness to embrace the technology, including concerns about the reliability and high cost of "smart guns," pushback from certain law enforcement agencies and gun rights advocacy groups,[6] and threats to mandate the purchase of personalized guns once they are ready for mainstream production.[7]

The last concern is the subject of this paper. "Smart guns" come in many forms, but the idea behind them is simple: to equip firearms with technology that prevents unauthorized users from being able to fire them. In a vacuum, this sounds like a great idea. So good, in fact, that some lawmakers have already

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[1] Dan Griffin, *Gun Ownership by the Numbers*, THE DAILY CALLER (Nov. 4, 2014, 4:52 PM), http://dailycaller.com/2014/11/04/gun-ownership-by-the-numbers/ [https://perma.cc/2437-KRTH].

[2] *See* Roger Parloff, *Smart Guns: They're Ready. Are We?*, FORTUNE (Apr. 23, 2015, 10:39 AM), http://fortune.com/2015/04/22/smart-guns-theyre-ready-are-we/ [https://perma.cc/ND9Q-JNSA] (stating that one of the more well-known "smart guns" currently available is the Armatix iP1, which costs just under $1,800).

[3] Steve Karp, *Smarter Guns, A History*, SMART TECH CHALLENGES FOUND. (Sept. 22, 2015), https://smarttechfoundation.org/smarter-guns-a-history/ [https://perma.cc//NFU4-ENTB].

[4] Joel Rose, *A New Jersey Law That's Kept Smart Guns Off Shelves Nationwide*, NPR (June 24, 2014, 5:15 PM), http://www.npr.org/sections/alltechconsidered/2014/06/24/325178305/a-new-jersey-law-thats-kept-smart-guns-off-shelves-nationwide [https://perma.cc/JZ4Y-PTBC].

[5] Lauren C. Williams, *Why You Can't Buy a Smart Gun*, THINKPROGRESS (Jan. 8, 2016, 2:52 PM), https://thinkprogress.org/why-you-cant-buy-a-smart-gun-13fab9b145cc#.3j30zzerk [https:perma.cc/2KXY-CPEP].

[6] John R. Lott, Jr., *When 'Smart-Gun' Laws Are Not So Smart*, NAT'L REV. (May 26, 2016, 6:36 PM), http://www.nationalreview.com/article/435920/smart-guns-police-gun-control-safety-benefits-carry-real-costs [https://perma.cc/AX7Y-FR5E]; Steve Pokin, *Proponents of 'Smart Guns' Say NRA is the Main Obstacle*, USA TODAY (Aug. 3, 2014, 7:59 PM), http://www.usatoday.com/story/news/nation/2014/08/03/proponents-smart-guns-nra-obstacle/13551659/ [https://perma.cc/5AJV-2L8V].

[7] Rose, *supra* note 4.

begun searching for ways to impose the technology on future gun purchasers.[8] Even President Barack Obama entered the "smart gun" debate in 2016, ordering a series of studies by the Departments of Defense, Homeland Security, and Justice on the viability of the technology for inclusion in his "common sense" plans for gun reform.[9]

Any effort to impose "smart gun" technology on unwilling gun-owners will implicate the Second Amendment right to "keep and bear arms," which the Supreme Court in *District of Columbia v. Heller* held to include an individual right to obtain personal firearms for self-defense.[10] Unlike a traditional gun ban, a hypothetical requirement that only guns with a specific technology be produced for sale would constrain but not abolish the right to keep and bear arms. This raises a question left open by *Heller*: To what extent can legislatures limit the ability of gun-owners to obtain and use their weapons of choice? *Heller* makes clear that not every regulation involving guns necessarily violates the Second Amendment, just as not every regulation involving speech necessarily violates the First Amendment.[11] The big question is how courts will distinguish permissible from impermissible regulations.

One possible approach is to draw upon existing case law dealing with fundamental rights that focuses on whether regulations impose an "undue burden" on the right in question. This standard is familiar from the abortion jurisprudence of the past quarter century, as well as from other controversies surrounding the exercise of fundamental constitutional rights, and it may provide a useful framework for analyzing "smart gun" requirements if and when they arise.

Part I of this paper briefly discusses the history and development of "smart gun" technology. Part II explores the current state of the individual right to bear arms under the landmark case, *District of Columbia v. Heller*. Part III introduces the "undue burden" test and presents a detailed analysis of how it has been used by the Supreme Court in the context of abortion rights. Part IV analogizes undue restrictions on abortion to the restrictions imposed by a "smart gun" mandate and assesses how such a mandate might fare in light of that constitutional standard.

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[8] *See, e.g.*, *id.* (explaining New Jersey's Childproof Handgun Law of 2002, which was passed to prohibit the sale of traditional handguns within thirty months of the availability of personalized handguns anywhere in the country).

[9] Sarah Wheaton, *Obama to Make 'Smart Guns' Push*, POLITICO (Apr. 28, 2016, 10:48 AM), http://www.politico.com/story/2016/04/obama-smart-gun-technology-222574 [https://perma.cc/8GC5-UW3M].

[10] District of Columbia v. Heller, 554 U.S. 570, 628 (2008).

[11] *Id.* at 595; *see, e.g.*, Miller v. California, 413 U.S. 15, 23–24 (1973) (upholding a California state law prohibiting the distribution of obscene material and holding that while state regulations limiting free speech must be "carefully limited," obscene materials are not constitutionally protected).

I. BACKGROUND AND HISTORY OF "SMART GUN" TECHNOLOGY

In 2018, with an Executive Branch led by President Donald Trump and a Republican-controlled House and Senate, a national push for a "smart gun" mandate is unlikely — at least for the time being.[12] However, with the gun control debate as lively as ever across different parts of the country, state-level mandates like the one in New Jersey are still something of which to be cognizant. Gun rights advocacy groups, most notably the National Rifle Association, fear that the availability of "smart gun" technology will jeopardize their Second Amendment rights by spurring state or federal mandates, with a resulting prohibition of the manufacture and ownership of traditional guns.[13] In their view, so long as "smart gun" technology remains unavailable, legislators are effectively unable to prohibit the sale, purchase, and use of traditional firearms.[14] This circular dilemma is difficult to escape, though one state has tried. Arizona state senators voted in 2017 to prohibit the restriction of gun sales to those with "smart" capabilities.[15] In principle, this could reduce the fear of mandated use of "smart guns"; but what one legislature enacts, another legislature can repeal, so it is questionable whether the Arizona bill would satisfy gun-rights advocates.

Advocacy groups, like the NRA, have and assuredly will continue to push back against the passage of any sort of "smart gun" technology mandate.[16] The NRA, in particular, is resistant to the imposition of expensive and unreliable technology on gun-owners via legislation that restricts freedom of choice and accessibility.[17] So, how expensive and unreliable is this technology?

The most advanced "smart gun" on the market today is the Armatix iP1 semi-automatic pistol.[18] The iP1 requires the use of a special watch, which is activated by a five-digit code and allows the user to shoot only if the watch is situated

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[12] *See, e.g.*, Giuseppe Macri, *Defense Department Will Help Implement Obama's Smart Gun Tech*, INSIDESOURCES (Jan. 5, 2016), http://www.insidesources.com/defense-department-will-help-implement-obamas-smart-gun-tech/ [https://perma.cc/2A3K-BB33] (noting that Republican-controlled Congresses have objected to executive orders mandating research into smart gun technology).

[13] Rose, *supra* note 4.

[14] *See id.*

[15] Howard Fischer, *Arizona Senators Vote to Block Restricting Gun Sales to Those with 'Smart' Technology*, TUCSON (Mar. 30, 2017), http://tucson.com/news/local/govt-and-politics/state-senators-say-smart-gun-technology-unproven-potentially-dangerous/article_cb03507b-93ca-51b9-a9e4-197cbe62a84b.html [https://perma.cc/32TY-7CP2]. In particular, the bill would preclude mandatory personalization technology, tracking technology, as well as guns that transmit electronic data when fired. *Id.*

[16] Pokin, *supra* note 6.

[17] *"Smart" Gun Glitches Confirm Gun Owner Concerns*, National Rifle Association of America, Institute for Legislative Action (Oct. 14, 2016), https://www.nraila.org/articles/20161014/smart-gun-glitches-confirm-gun-owner-concerns [https://perma.cc/T3GZ-RCBB] [hereinafter *"Smart" Gun Glitches*].

[18] Parloff, *supra* note 2.

within ten inches of the pistol.[19] The five-digit code can be set to activate the gun for varying amounts of time, up to eight hours, and takes less than one half-second to engage.[20] The watch works by activating the gun using a radio frequency identification device (RFID) transponder, which transmits a radio signal from the watch to the gun, which then unblocks the firing pin.[21] The special watch and pistol together cost slightly less than $1,800 — more than four times the price of Glock's G43 traditional concealed-carry handgun.[22]

Still in the works are a number of biometric "smart gun" technologies, which remain in the prototype phase.[23] Ironically, the lack of progress thus far can be largely attributed to the push for "smart gun" development.[24] Despite receiving more than $3 million in federal grants between 2000 and 2004 for research and development of "smart gun" technology, gun manufacturer Smith & Wesson abandoned the project in the face of revenue-crushing boycotts.[25]

A. Limitations of "smart gun" technology

"No defensive firearm should ever rely upon any technology more advanced than Newtonian physics."[26]

While the styles, safety mechanisms, and materials with which guns are made have seen advances over the last century or so, the basic means by which guns operate has remained largely the same.[27] This lack of "progress" is largely by design.[28] Gun technology is meant to be simple, reliable, and consistent.[29] The circumstances under which a person might need to use a weapon for self-defense or other similar situations are typically chaotic, stressful, and time-sensitive.[30]

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[19] *Id.*

[20] *Id.*

[21] *Id.*

[22] Rich Smith, *3 Reasons a Smart Gun Will Never Sell*, THE MOTLEY FOOL (July 19, 2015, 8:13 AM), http://www.fool.com/investing/general/2015/07/19/3-reasons-a-smart-gun-will-never-sell.aspx [https://perma.cc/YJ7M-YQZP].

[23] *See* Matt Drange & Aaron Tilley, *Smart Gun Makers to Silicon Valley VCs: Fund Us*, FORBES (Feb. 24, 2016, 5:00 AM), https://www.forbes.com/sites/mattdrange/2016/02/24/smart-gun-makers-to-silicon-valley-vcs-we-need-your-money/#17202c1f59a7 [https://perma.cc/LN9U-PXUV].

[24] *See* Rose, *supra* note 4 (describing public backlash to a New Jersey law requiring all handguns sold in New Jersey to be smart guns within thirty months after personalized handguns are introduced anywhere in the United States).

[25] Williams, *supra* note 5.

[26] BOSTON T. PARTY, BOSTON'S GUN BIBLE, 35/24 (rev. ed. 2002).

[27] *See* Tom Hartsfield, *Smart Guns Are Stupid Science*, REALCLEARSCIENCE (Feb. 10, 2016), http://www.realclearscience.com/blog/2016/02/smart_guns_are_stupid_science.html [https://perma.cc/26UW-GWKQ].

[28] *Id.*

[29] *Id.*

[30] *See id.*

Therefore, should a person need to pull the trigger, doing so successfully should feel like second nature to the user. Any impediment to reaction time caused by overly complicated mechanisms, faulty technology, or user error could mean the difference between life and death.[31]

Murphy, author of the famous law, is unknown to history. It's a good bet that he was a scientist, or possibly an engineer. He stressed one of the most important things to understand as a practitioner of sound laboratory science — and daily life — is the minimization of extraneous variables. The fewer things that you need to happen perfectly right, the more likely your plan is to succeed.[32]

It is therefore important to know the extent to which "smart guns" are likely to raise reliability concerns for gun-owners.

i. Reliability of various "smart gun" technology devices

Because of the differences in the way they function, each form of "smart gun" technology has its own set of vulnerabilities with respect to reliability. Some devices are more sophisticated than others, and thus may be more or less reliable depending on the quality of the materials used or the degree to which they are susceptible to malfunction. More sophisticated technologies, such as biometric devices and touch memory sensors, are better equipped to identify the authorized shooter but are more susceptible to technological failure.[33] Indeed, even if the technology itself were perfected, questions remain as to whether the devices are compatible for use with firearms. Proper maintenance of firearms requires the use of lubricants and solvents for cleaning, which may wreak havoc on the electronics.[34] Even the recoil from firing a "smart gun" could damage sensitive devices, especially with larger caliber guns.[35] Under any of the above circumstances, there is a price to be paid for the enhanced "safety" offered by personalized weapons.

ii. Radio Frequency Identification Devices (RFID)

"Smart guns" that rely on RFID, or "token-based" technologies, require authorized users to wear some sort of physical item, typically a ring or bracelet, which activates a sensor on the firearm that releases the safety mechanism.[36] More sophisticated forms of the technology allow the RFID tokens to be implanted directly into the authorized user.[37] Some forms of the technology, called "passive tags," do not require a battery and are powered by

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[31] *Id*.

[32] *Id*.

[33] Cynthia Leonardatos et al., *Smart Guns/Foolish Legislators: Finding the Right Public Safety Laws, and Avoiding the Wrong Ones*, 34 CONN. L. REV. 157, 186 (2001).

[34] Parloff, *supra* note 2.

[35] Lott, *supra* note 6.

[36] MARK GREENE, NATIONAL INSTITUTE OF JUSTICE RESEARCH REPORT, A REVIEW OF GUN SAFETY TECHNOLOGIES 24 (June 2013).

[37] *Id*.

electromagnetic induction.[38] Others, called "active tags," use a local power source and function by emitting radio waves.[39]

Because RFID technology relies simply on the proximity of the token and the firearm, RFID devices do not require exact hand placement, as most biometric technologies would.[40] The simplicity of the technology could cut down on user error from some of the more sophisticated personalization technologies; however, RFID devices are susceptible to interference from other nearby radio sources, and those that require local power sources are also susceptible to power failure.[41]

In addition to its various technical vulnerabilities, there are several practical drawbacks to RFID technology. Most notably, because RFID "smart guns" require a token or piece of jewelry in addition to the firearm itself, users would be responsible for two devices and would therefore be more likely to misplace one or the other.[42] In this circumstance, in the event of an emergency, the owner would be left with either a very expensive fashion accessory or a firearm that is unusable for its intended purpose.

Conversely, users who are aware of such a problem might be tempted to keep the token stored in close proximity to the firearm, which could render it active during times when one might otherwise wish to keep the firearm in "safety" mode.[43] In this case, the purpose of the "smart gun" technology is lost, and the firearm is left vulnerable to misuse. In the worst-case scenario, a child who finds the firearm could accidentally discharge the weapon, even without physically wearing the ring. Alternatively, an intruder could find and take both the ring and the gun.[44]

On the other hand, users who are averse to this risk would be forced to either wear or carry the token at all times, or store the token in a location that is out of range of the firearm.[45] The first of these options would make it easy for others to identify "smart gun" owners, which might be constitutionally objectionable on First Amendment grounds.[46] The second of these options would increase the amount of time it would take for an individual to respond to an emergency.

iii. Touch Memory Devices

Like RFID devices, touch memory devices require the use of an external ring

[38] *Id.* at 25.

[39] *Id.*

[40] *See* Leonardatos et al., *supra* note 33, at 182–84, 186.

[41] GREENE, *supra* note 36, at 25; Leonardatos et al., *supra* note 33, at 182–83.

[42] *Id.* at 183.

[43] *Id.*

[44] *Id.*

[45] *Id.*

[46] *Id.* at 183–84.

or some other device in order to activate the firearm.[47] Touch memory devices, which require a particular spot on the token to touch a designated spot on the firearm, are fast-acting and reliable enough to satisfy most needs when used properly and under the right circumstances.[48] However, these devices are dependent upon power sources, and the readings on these devices are easily impaired by gloves, oils (which are often used to clean guns), residues, and blood.[49] Misalignment of the token's sensor when it makes contact with the sensor on the firearm could also hamper connectivity.[50]

Although touch memory devices are reliable when the token and sensor are cleaned and when the user properly positions his or her grip on the firearm, these ideal circumstances are not a realistic expectation for emergency situations. Like with RFID technology,[51] if the token and the firearm are stored separately, user reaction time to respond to an emergency is lengthened. Moreover, unlike with RFID "smart guns," extra time may be necessary to wipe any residues off the firearm or token, which would further extend the time needed to activate the firing mechanism. If the gun gets blood, mud, or other especially sticky or gritty substances on it, the possibility of cleaning the token or gun may be foreclosed altogether within any reasonable amount of time. In a self-defense situation, when seconds count, fumbling with sensors and tokens could waste valuable time.

iv. Biometric Technology Devices

Biometric technologies utilize an individual's uniquely identifiable features, such as fingerprints, palm prints, voice, or even vein patterns, to authenticate the identity of the authorized user.[52] In the case of devices that use fingerprints or palm prints as authenticators, a sensor is placed in a location on the firearm that requires "little or no conscious effort by the user," and the scanned biometric information is quickly verified against previously stored information in an internal computer.[53]

There are several drawbacks to biometric "smart gun" technology, most notably its tenuous reliability and high price tag.[54] The type and sophistication of sensors used in biometric "smart guns" are not unlike the kind we are currently seeing in our smart phones.[55] The current state of the technology

[47] *Id*. at 185.

[48] *Id*.

[49] *Id*.

[50] *Id*.

[51] *See supra* text accompanying notes 37-46.

[52] GREENE, *supra* note 36, at 26.

[53] *Id*.

[54] *See* Parloff, *supra* note 2; *see also* Jon Stokes, *Will Smart Guns Make Us Less Safe?*, L.A. TIMES (Jan. 17, 2016, 5:00 AM), http://www.latimes.com/opinion/op-ed/la-oe-0117-stokes-smart-gun-problems-20160117-story.html [https://perma.cc/9GRP-Y8QE].

[55] *"Smart" Gun Glitches*, *supra* note 17.

remains vulnerable to variables such as finger positioning, residue, gloves, moisture, and battery failure.[56] And, though many people are willing to put up with the mild annoyance of having to punch in a four-digit code on their smartphones when fingerprint authorization fails, the vast majority of gun-owners (especially those who keep firearms for self-defense) are unwilling to sacrifice reliability.[57]

Because biometric technology "smart guns" rely on sensors that are built into the firearm itself and do not rely on any additional tokens or rings to activate, they eliminate a major concern with RFID[58] and touch memory devices by eliminating the need for the user to worry about storing and properly syncing two separate devices.[59] However, because weapons equipped with biometric scanning devices are susceptible to the same limitations as touch memory devices with respect to residues and grip positioning,[60] this concern, along with their higher price tag, makes them an impractical alternative to traditional handguns.

B. Law enforcement objections to the proliferation of "smart gun" technology

Law enforcement groups' response to all forms of "smart gun" technology has been mixed. Not only are law enforcement agencies worried about the unconfirmed reliability of "smart guns," they are also concerned that the public's use of personalized weapons will inhibit police safety in situations where they may need to use another individual's gun to defend themselves.[61]

Police and other law enforcement agencies have been hesitant to outfit agents with personalized weapons, cautioning that commercial viability is not enough when it comes to the dangerous situations encountered by police on a day-to-day basis.[62] For police, a major weakness of personalized weapons is their unconfirmed reliability.[63] James Pasco, the Executive Director of the Fraternal Order of Police's Washington advocacy center, warned: "In a combat situation, a shooting situation, there's real confusion and chaos. It's not like TV, . . . [o]ften times they're very close quarters. We want a police officer to be able to take any gun . . . and use that gun to his advantage."[64]

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[56] *Id.*

[57] Stokes, *supra* note 54.

[58] Leonardatos et al., *supra* note 33, at 183–84.

[59] *Id.* at 185–86.

[60] *See* GREENE, *supra* note 36, at 26.

[61] *See* Christophe Haubursin, *'Smart' Gun Technology Has Promise but Needs to be Reliable, Police Say*, UPI (Mar. 19, 2014, 1:16 PM), http://www.upi.com/Top_News/US/2014/03/19/Smart-gun-technology-has-promise-but-needs-to-be-reliable-police-say/5001395178358 [https://perma.cc/KW93-TXUX].

[62] *Id.*

[63] *Id.*

[64] *Id.*

However, Bill Johnson, the National Association of Police Organizations Executive Director, believes the technology has clear benefits for law enforcement.[65] Personalized handguns could prevent situations where officers' own weapons are used against them.[66] From 2010 to 2014, fourteen police officers (less than three per year of the total 627,949 full-time law enforcement officers in the U.S.) were killed with their own guns.[67] Greg Suhr, San Francisco's Police Chief, volunteered his department for testing "smart guns," but only on an individual, voluntary basis.[68]

Because these firearms are still in the testing phase, little is known about how they will perform in the field.[69] One concern is that "smart guns" are not yet common enough to adequately judge whether they will be safe enough for use by police and other law enforcement agents.[70] Pasco said "Commercial viability isn't enough . . . until the products are thoroughly tested and certified, putting them into use in law enforcement will have to wait."[71]

In addition to concerns about use of smart guns by the police, law enforcement officials have also expressed some concern that the proliferation of personalized weapon technology to the general public might affect police safety. With respect to violent situations that involve police officers, Pasco added, "We want a police officer to be able to take any gun, his partner's gun, a criminal's gun, any gun, and use that gun to his advantage. If he is in a scuffle, and he gets a criminal's weapon and it's useless to him, we've got a safety problem."[72] If this is a real cause for concern by police and other law enforcement agencies, not only is a "smart gun" mandate a poor policy decision, but allowing private citizens to own "smart guns" at all may be detrimental to police safety. Of course, reliable empirical data on and of these matters is not currently available.

Additionally, because different types of "smart guns" rely on radio frequencies, power sources, and other electronic devices, law enforcement agencies fear that personalized weapons may be susceptible to hacking and other environmental interferences.[73]

C. Hacking concerns

The potential for unauthorized users to hack "smart guns" could mean more than allowing the wrong people to obtain access to lawful owners' personalized

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[65] *Id.*

[66] *Id.*

[67] Lott, *supra* note 6.

[68] *"Smart" Gun Glitches*, *supra* note 17.

[69] *Id.*

[70] *See* Haubursin, *supra* note 61.

[71] *Id.*

[72] *Id.*

[73] *Id.*

weapons — it could also mean rendering "smart guns" useless even when in the right hands. Even the most sophisticated forms of "smart gun" technology may be susceptible to hacking, because firearms are mechanical devices that are meant to be disassembled for the purpose of cleaning and maintenance.[74] Once a gun is broken down, any one of its component parts may be altered or removed.[75] For example, Smith & Wesson users commonly remove the mechanical locks that the company added to its revolvers at the request of the Clinton administration; the same could be done with respect to nearly any personalization device that happens to be added or integrated into a firearm.[76]

Short of removal, RFID devices are susceptible to radio frequency scrambling.[77] Additionally, certain "smart guns" are designed to connect to independent devices, either to track the weapon, obtain permission to fire, or even broadcast information regarding the weapons' use.[78] If government agents demand that tech companies create "back doors" in their encryption technologies — which, in itself, could create legal issues — they could also be creating a "back door" for criminals who seek to exploit authorized "smart gun" users.[79]

II. HELLER: THE CURRENT SCOPE & STATUS OF THE RIGHT TO BEAR ARMS

In 2008, Justice Scalia delivered the *District of Columbia v. Heller* opinion on behalf of the U.S. Supreme Court, holding that the Second Amendment recognizes an "individual right to keep and bear arms."[80] In *Heller*, the Court addressed the various gun-ownership and licensing regulations for the District of Columbia. At the time, the District of Columbia generally prohibited the possession of handguns.[81] Further, the carrying of unregistered handguns was a crime, and handguns were not eligible for registration.[82] However, the Chief of Police was permitted to issue one-year licenses allowing individuals to carry handguns.[83] In addition to these stringent regulations on handguns, District of Columbia law required that all lawfully owned guns be kept unloaded and disassembled unless kept in a place of business or were being used for "lawful

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[74] Stokes, *supra* note 54.

[75] *Id.*

[76] *Id.*

[77] David Simplot-Ryl & Nathalie Mitton, *Is RFID Dangerous?,* INRIA (May 20, 2011), https://www.inria.fr/en/centre/lille/news/is-rfid-dangerous [https://perma.cc/CWQ4-VDWD].

[78] *Id.*; *"Smart" Gun Glitches*, *supra* note 17.

[79] Stokes, *supra* note 54.

[80] District of Columbia v. Heller, 554 U.S. 570, 595 (2008).

[81] *Id.* at 574.

[82] *Id.* at 574–75 (citing D.C. CODE §§ 7–2501.01(12), 7–2502.01(a), 7–2502.02(a)(4) (2001)).

[83] *Id.* at 575 (citing §§ 22–4504(a), 22–4506).

recreational activities."[84] The Court noted that the right to self-defense is fundamental to the Second Amendment and that Americans have "overwhelmingly" chosen handguns for the purpose of exercising that right.[85] As a result, any ban placed on this class of firearms would be unconstitutional, as the Second Amendment protects those classes of firearms which are "in common use at the time."[86] In addition to holding that any statute banning handgun possession in the home would violate the Second Amendment, the Court further held that any statute that requires rendering a firearm inoperable for the purpose of immediate self-defense in the home is invalid under the Second Amendment.[87]

A. Heller establishes individual gun-ownership as a recognized Constitutional right

The Court declared in *Heller* that individual gun-ownership is a right protected by the Second Amendment.[88] Establishing individual gun-ownership as a recognized, fundamental right under the Constitution is important in the context of a "smart gun" mandate, because this status grants it the right to "undue burden" analysis before the courts.[89] Discussed in Part III, "undue burden" analysis is an exacting level of judicial scrutiny by which the courts address the validity of state-imposed restrictions on constitutional rights. Given the steep price and questionable reliability of "smart gun" technology, a mandate on the technology would pose quite a heavy burden on the ability of individuals to exercise their Second Amendment right to bear arms.

B. Heller prohibits laws that render guns inoperable for use for the purpose of self-defense within the home — does a "smart gun" mandate do just that?

Functionality concerns are common to "smart guns" and other ways in which gun-owners have traditionally kept their firearms out of the wrong hands, including lock boxes, trigger locks, and the practice of disassembling guns or keeping guns unloaded within the home.[90] Some gun-owners are concerned that these mechanisms or storage devices will reduce their firearm's ease and quickness of use during an emergency.[91] After all, the effective use of a firearm for self-defense in the home depends in part upon the owner's ability to access and fire the weapon in time to stop an attack.

From a usability perspective, there is no difference between a situation where

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[84] *Id*. (citing § 7–2507.02).

[85] *Id*. at 628.

[86] *Id*. at 627 (citing United States v. Miller, 307 U.S. 174, 179 (1939)).

[87] *Id*. at 635.

[88] *Id*. at 595.

[89] *See, e.g*., Morgan v. Virginia, 328 U.S. 373 (1946) (applying the "undue burden" analysis to a Virginia law that imposed a restriction on interstate commerce).

[90] *See* Leonardatos, *supra* note 33, at 178; *see also* Stokes, *supra* note 54.

[91] *Id*.

a gun is unusable because it is kept out of reach in a locked box and a situation where a gun is unusable because it is equipped with faulty or malfunctioning personalization technology. In either scenario, the lawful owner is prevented from using the gun to stave off an attacker, short of simply brandishing the weapon in an attempt to scare an intruder away — a risky bet for any frightened homeowner.

In addressing the District of Columbia's requirement that "firearms in the home be rendered and kept inoperable at all times," the Supreme Court held that such laws "make[] it impossible for citizens to use them for the core lawful purpose of self-defense and is hence unconstitutional."[92] The District of Columbia also specifically required that guns be "unloaded and disassembled or bound by a trigger lock or similar device."[93] By invalidating this regulation for the reason stated — because such regulations defeat the core lawful purpose of gun-ownership and are therefore *per se* unconstitutional — the Court left open the possibility that other regulations leading to the same results may be ruled unconstitutional as well.

Notwithstanding the decreased access to handguns for home self-defense under a "smart gun" mandate (due to their high price tag), the technology's tenuous reliability may place personalized weapons into the same "inoperable" category. Of course, "smart guns" are not purposefully inoperable in the way that disassembled or trigger-locked guns are rendered inoperable. But the obstacles that are likely to prevent proper firing or speedy access to the personalized weapon pose the same challenge to gun-owners that D.C.'s unconstitutional requirements posed: they prevent gun-owners from being able to use their firearms quickly in the event of an emergency.

Indeed, even disassembled or trigger-locked guns are not permanently disabled.[94] The only impediment to using such a weapon would be the simple act of putting the gun back together or removing the trigger lock and reloading the gun. For a responsible and experienced gun-owner, this process should not be difficult or especially time-consuming. Yet, the Court in *Heller* still found that forcing gun-owners to keep their weapons even in a temporary state of inoperability ran afoul of the basic purpose of the Second Amendment's right to bear arms.[95]

III. THE "UNDUE BURDEN" TEST AND APPLICATIONS

If the courts endeavored to evaluate the constitutionality of a "smart gun"

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[92] *Heller*, 554 U.S. at 630.

[93] *Id.* at 575 (quoting D.C. CODE §7-2507.02 (2001)).

[94] *See* Justin Peters, *Trigger Locks, the Dubiously Effective Safety Measure That Gun Control Advocates Love*, SLATE (July 18, 2013, 3:00 PM), http://www.slate.com/blogs/crime/2013/07/18/trigger_locks_the_dubiously_effective_safety_measure_that_gun_control_advocates.html [https://perma.cc/B4FV-MDX8].

[95] *Heller*, 554 U.S. at 630.

mandate, they would find themselves with no shortage of tests or standards of review at their disposal. A court could, for example, do what the Supreme Court did in *Heller*, and examine the text and history of the Second Amendment for guidance.[96] Alternatively, a court could apply one of several common standards of review, such as the "rational basis" test[97] or "strict scrutiny."[98] Or, a court could utilize the "undue burden" test, which has proven useful in a number of situations where constitutional rights are at stake.[99]

A. How the "undue burden" test weighs restrictions against rights in the context of abortion

As far back as 1946, the Supreme Court has employed the "undue burden" test to evaluate laws that impose restrictions on constitutional rights.[100] The modern conception of the "undue burden" test proceeds as follows: first, the Court determines whether the right impacted by the law at issue is a constitutional or "fundamental" right;[101] if it is, the Court then asks whether or not the state has a rational and legitimate interest in placing a restriction on the exercise of the right.[102] If the state has such an interest, the Court next analyzes whether or not the restriction poses an "undue burden" on the exercise of the right.[103] In conducting that analysis, the Court weighs a number of factors, including: whether the restriction's "purpose or effect is to place a substantial obstacle" on the exercise of the right,[104] whether the restriction forecloses all other reasonable alternatives,[105] and of the degree to which the group of people who will be most affected by the restriction are burdened.[106] If the Court

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[96] *See id*. at 576–626 (discussing the history and scope of the Second Amendment).

[97] *See, e.g*., United States v. Carolene Prods. Co., 304 U.S. 144, 152–53 (1938) (applying the "rational basis" test and explaining that where a state regulation serves a legitimate state interest, and where there exists a rational connection between the regulation's means and its goals, such regulation is constitutionally permissible).

[98] Strict scrutiny analysis applies where a state has severely abridged a fundamental constitutional right. *See* Skinner v. Oklahoma *ex rel*. Williamson, 316 U.S. 535, 541–42 (1942). The Supreme Court demands that state regulations abridging fundamental rights serve a compelling state interest, and that they be narrowly tailored to achieve that interest. *See id*.

[99] *See infra* text accompanying notes 100–138.

[100] Morgan v. Virginia, 328 U.S. 373, 380 (1946) (invalidating Virginia law requiring passenger motor vehicle carriers to separate passengers on the basis of their race on the grounds that the law was unduly burdensome on interstate commerce).

[101] *See* Valerie J. Pacer, *Salvaging the Undue Burden Standard—Is It a Lost Cause? The Undue Burden Standard and Fundamental Rights Analysis*, 73 Wash. U. L. Q. 295, 298-99 (1995).

[102] Whole Woman's Health v. Hellerstedt, 136 S. Ct. 2292, 2309 (2016).

[103] *Id*. at 879.

[104] Planned Parenthood of Southeastern Pennsylvania v. Casey, 505 U.S. 833, 878 (1992).

[105] *See* Eugene Volokh, *Implementing the Right to Keep and Bear Arms for Self-Defense: An Analytical Framework and a Research Agenda*, 56 UCLA L. REV. 1443, 1460 (2009).

[106] *See*, *Casey*, 505 U.S. at 897.

determines that the law does place an "undue burden" on the exercise of a protected constitutional right, the inquiry is over.[107] Any law that places an "undue burden" on the exercise of a fundamental constitutional right is invalid.[108] Indeed, while the "undue burden" test is the "appropriate means of reconciling the State's interest" with the free exercise of constitutional rights, an "undue burden" is *per se* an unconstitutional one.[109]

The Court explained, in the context of restrictions on abortion:

A finding of an undue burden is a shorthand for the conclusion that a state regulation has the purpose or effect of placing a substantial obstacle in the path of a woman seeking an abortion of a nonviable fetus. A statute with this purpose is invalid because the means chosen by the State to further the interest in potential life must be calculated to inform the woman's free choice, not hinder it. And a statute which, while furthering the interest in potential life or some other valid state interest, has the effect of placing a substantial obstacle in the path of a woman's choice cannot be considered a permissible means of serving its legitimate ends.[110]

The "undue burden" test poses a high hurdle for regulations having to do with the exercise of constitutional rights — especially when the burden in question is heavy.[111] However, the Court reserves the test only for situations that threaten recognized fundamental constitutional rights.[112]

Even fundamental rights that are subject to some limitations may still be deserving of "undue burden" treatment.[113] *Roe v. Wade* "did not declare an unqualified 'constitutional right to an abortion,'"[114] and still the Court applied the "undue burden" test to Pennsylvania's imposition of statutory restrictions on the right to abortion in the landmark case, *Planned Parenthood of Southeastern Pennsylvania v. Casey*.[115] Therefore, the "undue burden" test applies even to constitutional rights that are naturally subject to various limitations, like gun-ownership.

The question remains, then: would a "smart gun" mandate place an "undue burden" on the right of individuals to own firearms? This question can be explored by examining the types of restrictions that have been invalidated as unconstitutional in other contexts in which the "undue burden" test is commonly used; specifically, in the context of abortion.

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[107] *Id.* at 877.

[108] *Id.* at 878.

[109] *Id.* at 876.

[110] *Id.* at 877.

[111] Volokh, *supra* note 105, at 1454.

[112] Alan Brownstein, *How Rights Are Infringed: The Role of Undue Burden Analysis in Constitutional Doctrine*, 45 HASTINGS L.J. 867, 876 (1994).

[113] *See*, *Casey*, 505 U.S. at 874–75.

[114] *Id.* at 874 (quoting Maher v. Roe, 432 U.S. 464, 473–74 (1977)).

[115] *Id.* at 878.

B. Planned Parenthood v. Casey: the "undue burden" inquiry in action

The "undue burden" test has played a major role in protecting women's abortion rights. The test replaced the trimester framework previously used to evaluate restrictions on abortion, which was set forth in the landmark 1973 case *Roe v. Wade*.[116] The vehicle for this change was the 1992 case, *Planned Parenthood of Southeastern Pennsylvania v. Casey*.[117] *Casey* is an interesting and appropriate case for comparing "undue burdens" placed on the right to an abortion and the potential "undue burdens" placed on the right to gun-ownership in the event of a potential "smart gun" mandate. Because similar state interests are at play (concern for individuals' health and safety),[118] the importance of both the rights at stake and the competing aims of the restrictions (criteria which might render the restrictions "due") are monumental. Furthermore, because *Casey* dealt with a number of distinct restrictions imposed by the state, carefully considering the weight of each burden and invalidating only one of several,[119] this case provides useful insights as to what types of restrictions the Court will likely deem "unduly burdensome."

The statute at issue in *Casey* contained several key provisions, including informed consent requirements, a twenty-four hour waiting period, a parental consent provision, and a spousal notification provision.[120] Instead of considering the statute as a whole, the Court was careful to discern the weight of each burden individually, ultimately finding that only the spousal notification provision imposed an "undue burden" on a woman's right to an abortion and was therefore invalid.[121] The analysis in this case provides helpful insights as to the Court's definition of "undue burden."

First, the Court addressed the statute's definition of a "medical emergency," the finding of which would excuse women seeking an abortion from the entire slew of restrictions contained in the remainder of the statute.[122] Petitioners argued that the state's definition was too narrow, and thus left out certain medical conditions during pregnancy that should exempt women from adherence to the rest of the statute.[123] The Court denied this argument, not because the statute actually left out these conditions, but because the lower appellate court had interpreted the provision more broadly so as to include the

[116] Roe v. Wade, 410 U.S. 113, 114 (1973).

[117] *Casey*, 505 U.S. at 837.

[118] *See id*. at 871 (noting that the state has an interest in the protection of human life); *see also* New York State Rifle & Pistol Ass'n, Inc. v. Cuomo, 804 F.3d 242, 263 (2015) (noting that the courts owe "substantial deference" to legislatures with respect to matters of public safety).

[119] *See Casey*, 505 U.S. at 834.

[120] *Id*. at 833 (citing 18 PA. CONS. STAT. §§ 3205-3207, 3209 (1990)).

[121] *Id*. at 883, 887–89, 895.

[122] *Id*. at 879 (quoting 18 PA. CONS. STAT. § 3203 (1990)).

[123] *Id*. at 880.

mentioned conditions within the list of exemptions.[124] The Court did not explicitly state whether the statute would pose an "undue burden" if it were interpreted more narrowly; however, the Court found that the statute as interpreted did not impose an "undue burden" because it was construed to account for all of the major medical conditions that might impose serious health risks on the mother.[125]

Next, the Court considered the statute's informed consent requirement.[126] The statute required that a physician provide women with information regarding the nature of the procedure, health risks, and other medical information at least twenty-four hours before performing an abortion.[127] The Court held that this requirement did not constitute an "undue burden," because it posed no substantial obstacle to a woman seeking an abortion — it only required that she do so with accurate and complete medical information regarding the procedure.[128]

The Court then evaluated the potential burdens imposed by the mandatory twenty-four hour waiting period.[129] While the Court acknowledged that the waiting period gives practical effect to the purpose of the informed consent provision by giving the woman time to consider the information, it nevertheless found that the waiting period did pose a heavier burden than the other provisions for women with few financial resources or women who needed to travel long distances to her medical provider.[130] However, the Court asserted that a "particular burden is not of necessity a substantial obstacle."[131] Because the District Court record did not show that the waiting period constituted a substantial obstacle "even for the women who are most burdened by it," the Court upheld the provision.[132]

Lastly, the Court addressed the spousal consent provision.[133] The provision required that "no physician shall perform an abortion on a married woman without receiving a signed statement from the woman that she has notified her spouse [of her decision] to undergo an abortion."[134] After an exhaustive review of the lower court's findings and record containing statistical data on spousal abuse, the Court held that this provision posed an "undue burden" and was

124 *Id*.

125 *Id*.

126 *Id*. at 881.

127 *Id*. (explaining 18 PA. CONS. STAT. § 3205 (1990)).

128 *Id*. at 883.

129 *Id*. at 885.

130 *Id*. at 885–86.

131 *Id*. at 887.

132 *Id*.

133 *Id*.

134 *Id*. (explaining 18 PA. CONS. STAT. § 3209 (1990)).

therefore invalid.[135] The Court reasoned that the spousal notification requirement posed a legitimate threat to some women's safety, as well as their social and legal statuses, which would "prevent a significant number of women from obtaining an abortion."[136] Importantly, the Court noted that it did not matter that the requirement would potentially only affect one percent of women seeking an abortion, asserting that "[t]he proper focus of constitutional inquiry is the group for whom the law is a restriction, not the group for whom the law is irrelevant."[137]

The reasoning of the Court in *Casey* with respect to "undue burdens" on abortion can be boiled down to concerns for the safety of the mother and the physical ability of women to exercise their right to obtain an abortion.[138] In short, the provisions that required either preliminary steps before obtaining and abortion, like the informed consent provision, or that reasonably delayed exercise of the right, were upheld as valid restrictions because they did not "unduly burden" the women's right to obtain an abortion, even if some inconvenient processes stood in their way.

IV. LINKING GUN RIGHTS AND ABORTION RIGHTS: HOW THE "UNDUE BURDEN" TEST PROTECTS BOTH

The goal of this paper is to determine the degree to which, in light of judicial treatment of various Constitutional rights, a "smart gun" mandate would be constitutional under the Court's decision in *Heller*. First though, it is important to determine with reasonable confidence whether the "undue burden" test is the appropriate standard of review in the context of gun control statutes.

The similarities between the rights at stake in the contexts of abortion and gun control weigh in favor of applying the "undue burden" test to gun control statutes. While the values and considerations underlying each form of regulation vary considerably, both deal with recognized constitutional rights. Yet, as established in *Casey*, the state has a vested and important interest in striking the appropriate balance between protection of those affected by both gun ownership and abortion, and the free exercise of the constitutional rights protecting both practices.[139]

However, this cannot be the end of the inquiry. While these similarities may lend support to extending the "undue burden" test to gun control laws, they are not dispositive. Indeed, to assert that a "smart gun" mandate is deserving of the same standard of constitutional review as certain abortion restrictions, merely because they both implicate constitutional rights with competing state interests, would oversimplify the means by which courts take on the important task of

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135 *Id*. at 888, 895.

136 *Id*. at 893–94.

137 *Id*. at 894.

138 *See id*. at 898 ("Women do not lose their constitutionally protected liberty when they marry.").

139 *See id*. at 887–889.

validating or invalidating state law. Applying the "undue burden" test in the gun control context must stand on its own merits. There are a number of options available to the courts to evaluate the constitutionality of gun control laws.

A. Why apply the "undue burden" test in the gun control context?

Eugene Volokh, Gary T. Schwartz Professor of Law at UCLA, addresses the various methods by which courts might evaluate gun control laws.[140] He posits that there are four major frameworks under which courts may examine restrictions on the right to bear arms: (1) "scope" analysis, which considers the literal text of the Second Amendment and the "traditional understanding" of what is covered by the text; (2) "burden" analysis, which weighs the burden imposed by the restriction and evaluates whether it impermissibly infringes upon the enumerated right to bear arms; (3) "danger reduction" analysis, which mimics intermediate or strict scrutiny, allowing for a substantial burden only where the restriction greatly reduces the threat or likelihood of a given danger; and (4) "government as proprietor" analysis, which considers the government's "special power stemming from its authority as proprietor, employer, or subsidizer to control behavior on its property or behavior by recipients of its property."[141]

Professor Volokh's fourth method of analysis might be relevant to regulations of firearms in public parks or by government employees, but is not applicable to general regulations that would include home use of guns. His first method would presumably provide *more* protection for gun-owners than would an "undue burden" analysis, so anything that fails an undue burden inquiry would surely fail an inquiry focused on the literal text. The remaining inquiries — the "undue burden" test and the "danger reduction" theory — share similar underpinnings[142] and can be applied to broader swaths of gun control laws, including a "smart gun" mandate. These tests consider how the imposition of a restriction affects individuals' abilities to exercise constitutional rights and whether or not such impositions are justified by a competing state interest.[143] To be sure, while strict scrutiny analysis is sometimes applied in cases dealing with fundamental rights, it is rarely utilized by courts in the Second Amendment context.[144] It thus appears as though the "undue burden" inquiry is best suited to analyzing the effect of "smart gun" mandates. Indeed, Professor Volokh acknowledges that the "undue burden" test has been the dominantly used test in state court gun control cases, and presents substantial benefits to constitutional analysis of gun

[140] Volokh, *supra* note 105, at 1443.

[141] *Id.* at 1446–47.

[142] *Id.* at 1446.

[143] *Id.*

[144] Adam Winkler, *Fundamentally Wrong about Fundamental Rights*, 23 CONST. COMMENT. 227, 229 (2006).

control laws.[145]

With respect to various types of gun control laws, the "undue burden" test allows the Court to distinguish permissible restrictions from impermissible restrictions based on the burden they place upon individuals' ability to exercise their Second Amendment right to bear arms.[146] Notably, although the Court did not discuss what type of analysis would be appropriate for restrictions that did not constitute a total ban, the Court implied that the severity of the burden imposed on the right to bear arms was important.[147] This suggests that the "undue burden" analysis is appropriate in the context of gun control restrictions.

To be sure, the "undue burden" test is not without limitations. Volokh notes that courts and individual judges may disagree about "how large a burden must be to qualify as substantial," as well as the "empirical question of how much of a burden a particular restriction will impose."[148] To these concerns, Volokh responds that "[t]he answer should be fairly clear," in the gun control context, and may indeed be much easier to surmise than assessing whether a given regulation will decrease the danger of a particular gun crime or injury.[149]

Still, another potential drawback of the "undue burden" test is that courts may run into problems when "many small, less-than-substantial burdens . . . aggregate into a substantial burden."[150] For this reason, it is important that courts keep in mind the aggregate weight of permissible burdens, consider the remaining rights left intact, and evaluate whether or not these remaining rights provide adequate alternatives to the rights that are restricted.[151] If reasonable alternatives remain despite the restriction, then the law may pass muster.[152]

Despite these difficulties, Volokh contends that courts will continue to use the "undue burden" test to evaluate gun control laws, "treat[ing] the right to bear arms more like the liberty rights . . . than like the equality rights," which tend to warrant "strict scrutiny" review.[153] However, while the "undue burden" test may be well-suited for reviewing gun control laws generally, it is still necessary to show why a "smart gun" mandate, in particular, would qualify for "undue burden" review.

B. From gun control generally to "smart gun" mandates specifically, Heller

[145] Volokh, *supra* note 105, at 1458.

[146] *Id.* at 1456 (noting that the *Heller* Court "favorably quoted an old case distinguishing permissible 'regulati[on]' from impermissible 'destruction of the right' and from impermissible laws that make guns 'wholly useless for the purpose of self defence.'").

[147] *Id.*

[148] *Id.* at 1459.

[149] *Id.* at 1459–60.

[150] *Id.* at 1460.

[151] *See id.*

[152] *See id.* at 1460–61.

[153] *Id.*

supports application of the "undue burden" test

The holding in *Heller* provides some support for applying the "undue burden" test to a "smart gun" mandate. First, and most importantly, the *Heller* Court solidified the notion that the Second Amendment confers the right to individual gun-ownership upon all citizens outside the context of a state-run militia, barring certain limitations.[154] This crucial determination gets gun-owners into the realm of "undue burden" analysis based on the existence of a recognized constitutional right.[155]

Additionally, while a "smart gun" mandate does not amount to a total ban, a mandate would pose a burden on gun-owners in terms of cost, availability, and functionality. The cost and availability burdens can be easily supported by numerical data, which is helpful in evaluating the size of the burden, thus making "undue burden" review possible. Functionality arguments can be analogized to restrictions that require guns to be rendered inoperable, which are inherently burdensome and *per se* unconstitutional under *Heller*.[156] While this argument is somewhat attenuated, given that the government would not be directly responsible for the functional limitations of "smart guns," a prohibition on more functional alternatives could create an impediment to the effective exercise of the right to bear arms for self-defense.

For the foregoing reasons, a "smart gun" mandate is an appropriate restriction to which "undue burden" analysis may be applied. Of course, a plaintiff still must show that the mandate would constitute such an "undue burden" on the right to individual gun-ownership in order to invalidate the law.

C. Applying the Casey principles to a "smart gun" mandate

If a court were to apply the principles underlying *Casey* to a "smart gun" mandate, it would be necessary to consider the physical safety of gun-owners, as well as their ability to effectively own and operate a firearm in a time of need. It is important to note that a mandate on "smart gun" technology would foreclose all other handgun options, which is a crucial consideration in "undue burden" analysis.[157] A lack of meaningful alternatives would force the Court to determine whether the "smart guns" themselves adequately served the purpose of the right to bear arms.[158] The foregoing evidence regarding the cost and reliability of

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[154] District of Columbia v. Heller, 554 U.S. 570, 595 (2008). Individuals and circumstances excepted from this fundamental right to individual gun-ownership include felons, the mentally ill, or the prohibition of guns from "sensitive places" like schools. *Id.* at 626.

[155] *See supra* text accompanying notes 118-119.

[156] *See supra* text accompanying note 92.

[157] *See* Volokh, *supra* note 105, at 1460 (stating that different gun options affect the analysis of burden on self-defense).

[158] *See id.* at 1483.

smart guns shows that such a determination is unlikely.[159]

First, the tremendous cost of available "smart gun" technology could price many potential gun-owners out of the market. Even if cost only prevented a small number of people from being able to purchase a gun due to the lack of an affordable, lawful alternative, a mandate could— and should— be rendered invalid. Indeed, as the Court noted in *Casey*, constitutional inquiry focuses on those for whom the law is an impediment.[160]

Secondly, while time restrictions were not held to be "unduly burdensome" in *Casey* because they did not amount to a total impediment to a woman's choice to obtain an abortion,[161] time is certainly of the essence in cases where one might need to use a weapon for self-defense. Instead of analogizing the time it would take to overcome potential malfunctions or user errors with "smart gun" technology to the twenty-four hour waiting period in *Casey*, this impediment is actually better analogized to the spousal consent provision.

Like the spousal consent provision, an inability to successfully fire a weapon during the seconds when it counts most is nothing less than a total impediment to the meaningful exercise of one's constitutional right to possess a firearm. Indeed, facing a situation where response-time to an emergency is delayed because of technical malfunction is not like a situation where a woman's ability to obtain an abortion is delayed by twenty-four hours. In the latter scenario, the woman is inconvenienced by the delay, but is still ultimately able to obtain the abortion. In the emergency situation where the gun-owner is unable to spend the time locating his activation token or clean the residue from the biometric scanner, this delay could mean the difference between life and death. For these reasons, a "smart gun" mandate would likely fail to pass constitutional muster under a *Casey*-like "undue burden" analysis.

So long as the goal of enacting "smart gun" technology regulations is focused on enhancing safety conditions and preventing unnecessary death, it would be counterproductive to limit individuals' and law enforcement officers' options to a technology that could be rendered useless in a time of need. Gun-owners should not have to pay a premium for technology that is supposed to secure their weapons when that technology can be easily circumvented. For law enforcement, the reliability of their firearms is crucial. The benefit of carrying a weapon that cannot be fired by an unauthorized user is all but lost if the firearms are rendered equally useless to the officers carrying them. Indeed, if the purpose of a "smart gun" mandate is to ensure that this added layer of "protection" is in use every time someone attempts to shoot a firearm, the efficacy of the technology is called into question if individuals can activate and disable these weapons at will. Until a form of "smart gun" technology is devised that cannot be hacked, the imposition of "smart guns" on the market remains impractical, wasteful, and dangerous.

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159 *See supra* A. Limitations of "smart gun" technology

160 *See supra* text accompanying note 137.

161 *See supra* text accompanying notes 129–132.

CONCLUSION

As "smart gun" technology continues to develop, those invested in the gun control debate will likely continue to keep a watchful eye on its progress. If states like New Jersey continue to call for "smart gun" mandates once the technology is viable for mass production and sale, the Supreme Court will undoubtedly have to face challenges to their constitutional legitimacy. If that happens, the Court should invalidate a "smart gun" mandate under an "undue burden" analysis based on the substantial obstacles gun-owners would face with respect to personalized firearms' cost, availability, and reliability.

As with abortion rights, the Court has determined that the individual right to bear arms is a constitutionally protected interest. Despite states' undeniable interest in promoting health and safety in both arenas, these rights deserve protection from unduly burdensome restrictions. Legislators would be well-served to take note of the obvious deficiencies of personalized firearms, and avoid imposing substantial obstacles in the way of individuals' ability to protect themselves and their families in the form of any type of "smart gun" mandate.