Technologies to Detect Concealed Weapons: Fourth Amendment Limits on a New Public Health and Law Enforcement Tool

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Firearm violence is a major public health problem in the United States. In 2000, firearms were used in 10,801 homicides[1] — two-thirds of all homicides in the U.S. — and 533,470 non-fatal criminal victimizations including rapes, robberies, and assaults.[2] The social costs of gun violence in the United States are also staggering, and have been estimated to be on the order of $100 billion per year.[3]

Illegal gun carrying, usually concealed, in public places is an important risk factor for firearm-related crime. In the 1980s and 1990s, police departments across the country began to develop and implement strategies to address illegal weapons carrying. Often these strategies have involved aggressive efforts to identify and physically search individuals suspected of illegally carrying a firearm.[4]

Within the next few years, however, new technologies may be available that will enable the police to identify persons carrying concealed firearms without the necessity of a physical search. Devices currently being developed and tested could permit the police to scan an individual from a distance — much as a hand-held radar gun enables the speed of a vehicle to be determined from a distance — to determine if a firearm is being carried under his or her clothing.[5]

There are a number of different ways that this new technology might be used. For example, gun scanners might be used to conduct: searches incident to a lawful arrest, so-called *Terry* stops based on reasonable suspicion of wrong-doing, searches with the consent of the target individual, or fixed administrative searches at high-risk places such as entrances to airports or public buildings. Physical searches, pat-downs, or conventional metal detectors are generally permitted in each of these circumstances. Of course, any "search" conducted by the police is potentially subject to the Fourth Amendment's protection of "[t]he right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures...."[6] But many of these traditional police practices may simply substitute a gun scan for an already legally permissible physical search. And in all of these cases, using a gun scanner might decrease the level of physical intrusion felt by the person being searched and increase police officer safety by allowing searches to be conducted at a distance. Therefore, the constitutionality of gun scans in these traditional search circumstances is relatively clear.

A more controversial use of the new technology would involve scans of persons on the street by the police without any level of individualized suspicion that the person was illegally carrying a concealed weapon or otherwise engaged in wrong-doing. This sort of suspicionless scanning has the potential to identify and apprehend far more individuals who are illegally carrying weapons than more traditional police search strategies. As a result, such a use could have important benefits for -public safety, especially in high-risk neighborhoods.

But suspicionless scanning also raises serious constitutional concerns. In fact, for some readers, an initial reaction might be that such a use would be clearly impermissible. We argue, however, that there are a number of possible ways that courts might analyze the Fourth Amendment issues raised by suspicionless scans for concealed weapons. At least some of these possible judicial responses could allow suspicionless scans in certain circumstances.[7]

This paper will: 1) discuss the public health risks associated with illegal weapon carrying, and the police responses (without new technology) to suppress this activity; 2) describe the gun scanning technology currently being developed, and specify assumptions about the nature of

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those new devices that may be relevant for their constitutionality; and 3) examine different ways that the courts may respond to the Fourth Amendment issues raised by suspicionless scans by the police, including a line of reasoning that might permit such scans, and new empirical data relevant to the constitutional inquiry.

Gun Violence and Gun Carrying

National survey data indicate that twelve percent of adults in the U.S. report carrying a firearm for protection at least once in the past year; but the majority of carriers do so less than once per month. Although most states have made it much easier for legal gun possessors to obtain permits to carry a concealed firearm, only a third of the gun carriers surveyed in 2001 said that they had a permit to do so.[8] Citizens also use guns to defend themselves against crime. However, current methods for estimating the incidence of defensive gun use are considered by many to be unreliable.[9]

Whether gun carrying by individuals who are not proscribed from possessing firearms leads to more or less violent crime is a matter of intense debate. Gun control advocates argue for very tight restrictions on the issuance of permits to carry concealed firearms, and claim that widespread gun carrying significantly increases rates of lethal violence.[10] Opponents of these restrictions argue that civilian defensive gun use in the U.S. occurs as frequently as 2.5 million times per year,[11] and that legal restrictions against gun carrying by law-abiding citizens reduces a vital deterrent to violent crime.

Eighteen states adopted so-called "shall issue" concealed carry weapon (CCW) laws between 1987 and 2000,[12] providing an opportunity for researchers to assess whether easing restrictions on CCW permits leads to more or less violent crime. Economist John Lott, Jr. conducted a series of studies using a variety of analytic techniques, different study periods, and different outcome measures. While Lott's findings were not always internally consistent, he generally found that shall-issue CCW laws were associated with significant reductions in violent crime.[13] However, numerous other researchers have found flaws in Lott's methodology that, once corrected, revealed no evidence that shall-issue CCW laws reduced violent crime and some evidence that they may have increased crime.[14] In addition, the reliability of some of the underlying data used by Lott has been called into question.[15] The apparent lack of impact of shall-issue CCW laws should not be surprising for two reasons: 1) there is little evidence that the laws have substantially increased concealed gun carrying since many carry guns without permits;[16] and 2) permit holders tend to be a low-risk group for both offending and victimization.[17]

Of greater consequence to public safety is illegal gun carrying by high-risk individuals such as criminals and youth. The vast majority of criminal gun offenders were prohibited under federal law from having a firearm at the time of their offense.[18] Gun carrying is common among criminals, particularly criminally-involved youth, gang members and those involved in the illicit drug trade.[19] For example, in an eleven-city study, fifteen percent of arrestees reported that they carried a gun all or most of the time. This figure rose to twenty-five percent among drug sellers, and thirty-six percent among gang members.[20] Widespread gun carrying in poor, socially-isolated, urban neighborhoods can promote social norms supportive of the use of lethal violence.[21] Many deadly encounters among criminally-involved, young, urban males result from spontaneous encounters in public places when one or more parties is carrying a gun.[22]

Given the important role that gun carrying plays in urban homicides and in street violence, it is logical that police would want to take steps to suppress this activity. With the rapid rise of gun homicides in the late 1980s and early 1990s, urban police departments around the country adopted a range of strategies to reduce gun carrying and to disarm high-risk individuals.[23]

In a widely-publicized intervention known as The Kansas City Gun Experiment, police in that city deployed special patrols in an area with a high density of gun violence. The sole mission of these patrols was to identify and search pedestrians and motorists who might be carrying or transporting guns. During the time these units were in use, gun seizures increased by sixty-five percent in the target area while gun crime decreased by forty-nine percent with no evidence of displacement. There was no significant change in either gun seizures or in gun crime in a comparison neighborhood in another part of the city.[24]

A similar intervention was tested during a ninety-day period in 1997 in Indianapolis; however, police took somewhat different approaches in two targeted areas. In two police beats in the East District of the city, a general deterrence strategy was used that sought to maximize the number of vehicle stops and police presence in the area. A more selective deterrence strategy was used in the North District whereby vehicle and pedestrian stops were targeted at individuals suspected of being involved in illegal activities. Although substantially more officer hours and activities were logged in the East than in the North, the increase in the number of illegal guns seized compared to the previous year was much greater in the North (fifty percent) than in the East (eight percent). Compared to the previous year, overall gun crime declined twenty-nine percent in the North target area but increased thirty-six percent in the East. Gun crime increased eight percent in the comparison area that did not have special gun patrols.[25]

In 1998, the Pittsburgh Police Department deployed firearm suppression patrols similar to those used in Kansas City in two police zones with very high rates of gun violence. As with the other studies of this type, changes in the targeted areas were contrasted with those in comparison

neighborhoods that did not use these patrols. The study indicated that the patrols were associated with a seventy-one percent reduction in gunshot injuries from assaults.[26]

In summary, available research provides consistent evidence that police patrols directed to suppress illegal gun carrying in high-risk settings and at high-risk times can lead to significant reductions in gun violence. It is reasonable to believe that such police efforts could be enhanced with the use of new scanning technologies. If constitutionally permissible, gun scanners could allow police to concentrate enforcement efforts on persons actually carrying concealed weapons and avoid potentially intrusive encounters with law-abiding citizens. This might also make gun carrying suppression efforts more acceptable to community members and safer for the police themselves.

New Concealed Weapon Detection Technology

Background

In March of 1994, prominent academic James Q. Wilson suggested in the *New York Times Magazine* that it was unrealistic and undesirable to rid the country of guns to curb violence; instead, he advocated cracking down on those who carried guns unlawfully. He argued that law enforcement should routinely make street frisks to identify individuals carrying guns without a permit. Specifically, he suggested that "[w]hat is needed is a device that will enable the police to detect the presence of a large lump of metal in someone's pocket from a range of 10 or 15 feet."[27] President Clinton found Wilson's argument persuasive, and he encouraged funding for the National Institute of Justice (NIJ) to research and develop concealed weapon detection technologies.[28]

One year after Wilson's article appeared in the *New York Times Magazine*, NIJ's Office of Science and Technology funded a concealed weapon detection initiative through its National Law Enforcement and Corrections Technology Centers. In addition, NIJ partnered with the Department of Defense's Defense Advanced Research Projects Agency to further investigate weapon detection technologies.[29]

Characteristics of Gun Detection Technology Relevant to Illegal Gun Carrying

There are a variety of technologies for identifying people who illegally carry concealed guns in development and some that are commercially available. Characteristics of these technologies that are potentially relevant to the constitutionality of their law enforcement applications include: whether the technology relies on analyzing energy emitted by the target individual to assess the presence of a weapon (passive technology) or on feedback from energy emitted by the technology itself (active); the ability of the technology to accurately assess the presence of a weapon with a low rate of false positives; whether the technology is specific to weapons or reveals other information, such as anatomical details of the target individual; and the maximum distance from the target individual at which the technology will function accurately.[30] The technology must also be portable (hand held or dashboard mounted) in order to provide law enforcement with the flexibility to use the technology in a variety of settings.

A 2001 NIJ report describes eighteen different technologies that are currently available or in development to detect concealed weapons.[31] While some of these eighteen technologies are ill-suited for the street-level application that is the focus of this analysis (such as walk-through metal detectors), the range of possible options that are being explored for commercial use suggests that a viable technology will soon be available.

One of the most promising weapon detection technologies at this time is passive millimeter wave imaging, which detects differences in the way millimeter wavelengths radiate from the body and from weapons.[32] This technology produces a dark image of the weapon against a lighter body-background, but does not reveal anatomical details.[33] Passive millimeter wave imaging has several features which make it particularly useful for concealed weapon detection: it can detect metallic and non-metallic weapons, plastic explosives, and other contraband, scan underneath several layers of clothing, and can be operated from a distance of up to seven meters.[34] Further, this technology can be portable or mounted on a patrol car.[35] The device could also be designed so that it simply signaled — for example, via a lighted indicator — the presence of a firearm.[36] Research is underway to improve the sensitivity of the technology to detect concealed weapons and to develop a finished model.[37]

Passive millimeter wave imaging is only one of a number of candidate passive weapon detection technologies. For example, one system relies on magnetic gradient measurement. This is a passive system that takes advantage of existing technology used in geologic exploration and navigation. It assesses tiny disruptions in the earth's magnetic field caused by iron-containing objects, and creates a top-to-bottom image of the person, including a grid indicating the location of the weapon.[38] Fixed-site detectors relying on magnetic gradient measurement have been piloted at schools and courthouses.[39]

Several active technologies are also in development. For example, low-frequency electromagnetic radiation systems emit a low-intensity electromagnetic pulse and measure the time it takes for energy reradiated from a metal object to decay. When the systems are fully operational, they are expected to have a long range, few false alarms, and may be field-portable.[40]

For the remainder of this article, we consider the

constitutionality of law enforcement use of weapon detection technology to determine whether individuals are illegally carrying concealed guns. For the purposes of this analysis, we consider a type of weapon detection technology with many of the same characteristics as the passive millimeter wave imager previously described. Specifically, we assume in our analysis that the technology will be passive; will be accurate and produce few false positives; will reveal information about guns, but not include other details such as body image; and will operate at a distance that is unobtrusive for the target individual. These assumptions will produce a strict test of constitutionality, and represent a realistic assessment of weapon detection technology that will soon be available to law enforcement officers to determine whether individuals are carrying concealed guns.

Constitutionality of Suspicionless Gun Scans

When Does Police Surveillance Constitute a Search

The critical question in determining the constitutionality of suspicionless gun scans under the Fourth Amendment is: would such a use constitute a search within the meaning of that Amendment. If the scans are not a search, then the police may conduct even suspicionless gun scans free from any Fourth Amendment constraints.[41]

Under the Supreme Court's modern jurisprudence, this inquiry is shaped by *Katz v. United States*.[42] In *Katz*, the FBI used an electronic device to listen to the defendant's conversation in a public telephone booth. In concluding that this eavesdropping amounted to a search, the Court established a two-part test: "first, that a person have exhibited an actual (subjective) expectation of privacy and, second, that the expectation be one that society is prepared to recognize as 'reasonable.'"[43] Therefore, unless government conduct intrudes upon an individual's reasonable expectation of privacy, that conduct will not constitute a search.

Are Suspicionless Gun Scans a Search Under the Fourth Amendment: Empirical Data

The first part of the Court's test in *Katz*, an "actual (subjective) expectation of privacy,"[44] is usually not a serious issue in concealed weapons cases. By choosing to carry the firearm in a concealed fashion, one is clearly evidencing a subjective expectation of privacy. One might lose this expectation by brandishing the weapon or otherwise announcing its presence. But this conduct would allow gun scans of only a small minority of potential targets on the street.

The second part of the *Katz* test, an expectation of privacy that society considers reasonable, is usually the more relevant inquiry. How might a court make this determination in the case of suspicionless gun scans? One traditional method would be by analogy to previously decided cases involving related technology and uses. These cases are discussed in subsequent sections of this article.[45] But since societal notions of "reasonableness" are essentially normative conclusions, another possibility is that the courts might choose to rely, in part, on empirical data regarding the public's view of gun scanning technology.

With this possibility in mind, several of us (DW, JV, SF) conducted a study, funded by the National Institute of Justice, to assess the views of a sample of the public. For that study, we conducted a random-digit-dial telephone survey of 1,232 respondents drawn from U.S. cities with a population of 200,000 or greater. First, the respondents were read the following prefatory statement: "New devices are being developed that the police could use from about 30 feet away to determine whether someone is carrying a concealed weapon. Unlike current metal detectors, these new devices would be able to tell the difference between a gun and other metal objects such as keys or belt buckles. When the devices are pointed at an individual carrying an object that is shaped like a gun, the device would set off a signal such as a beeping noise to alert the officer who is operating the device."[46] Respondents were then asked a series of questions about support or opposition to the new technology.

Study findings might be used to conclude that society does not recognize a reasonable expectation of privacy regarding gun scanners. The strongest evidence for this conclusion derives from the overwhelming general support for police use of gun scanners. When asked, "Overall, do you favor or oppose police using new weapon detection devices in high crime areas?", eighty-six percent favored or strongly favored such uses. Overall support varied surprisingly little by age, race, or gender.[47]

Despite the high levels of general support for the technology, study findings suggest less societal consensus for certain uses of the technology. Specifically, when asked about support for random, suspicionless scans of persons on the street, fifty-five percent expressed support.[48] Although this is still a majority of respondents, it may not provide sufficient evidence that society does not recognize a reasonable expectation of privacy for this use of gun scanners, especially by comparison with the ninety-three percent of respondents who supported using the devices at the "entrance to a school where students have previously brought weapons."[49]

By comparison with overall support for police use of the technology, a significant proportion of respondents also reported concerns about privacy associated with gun scanners. When prompted by the interviewer, approximately half of the respondents (forty-nine percent) agreed that gun scanners would intrude upon an individual's privacy. Privacy concerns were also the most frequent reason given among those who disapproved of random gun scans, cited by forty-five percent of those respondents.[50] Again, it is

difficult to know how courts might interpret these data. Courts could conclude that, since a substantial (albeit a minority) proportion of respondents agree that the devices implicate their privacy, society does recognize a reasonable expectation of privacy in this context. Nevertheless, the strong general support for the technology (which may reflect a weighing of safety and privacy issues by respondents in favor of safety) may convince a court otherwise.

When Guns Scans Might Not be a Fourth Amendment Search

Two Supreme Court cases suggest that government conduct that has the potential to reveal only whether or not a person is in possession of contraband, and which is not otherwise intrusive, does not constitute a search for Fourth Amendment purposes. In these circumstances, the government has not intruded upon a reasonable expectation of privacy as defined in *Katz*.

In *United States v. Place*, airport officers seized a passenger's luggage and subjected it to a sniff by a specially trained dog.[51] In *United States v. Jacobsen*, federal agents conducted a chemical field test on a powder that had been discovered in a Federal Express package after that package had been damaged by Federal Express workers.[52] The Court held that neither the dog sniff nor the chemical drug test constituted a search because neither action could reveal information about non-contraband items.[53] Several commentators have suggested that this same rationale could be applied to gun scans: since, in theory, the gun scans will reveal only whether or not someone is carrying a concealed firearm, they will not constitute searches.[54] Such an extension of the *Place/Jacobsen* rationale would mean that police could conduct suspicionless gun scans in circumstances in which concealed firearms are contraband.

This section is divided in two parts. In the first, we consider whether the *Place/Jacobsen* rationale is likely to be extended to gun scans. In the second, assuming that courts do extend the rationale to gun scans, we consider the circumstances in which concealed firearms constitute contraband.

Will Courts Extend the Place/Jacobsen Rationale to Gun Scans?

To determine whether to extend the *Place/Jacobsen* rationale to gun scans, courts will not only consider how gun scans differ from dog sniffs and chemical field tests, but also whether the *Place/Jacobsen* rationale should be limited by the particular facts in each case, or by a more recent Supreme Court opinion.

The Person/Property Distinction

An initial difference between gun scans and the searches at issue in *Place* and *Jacobsen* is that the *Place/Jacobsen* searches targeted property while gun scans will target people. This could be an important distinction because courts may recognize a greater privacy interest with respect to the body than to personal property. The Ninth Circuit, for example, recently held that although dog sniffs of property do not constitute searches, dog sniffs of people do.[55]

However, there are also persuasive reasons to argue that the person/property distinction should not make a constitutional difference in the case of gun scans. Assuming for the moment that gun scanners are accurate, they reveal nothing private about the person except whether he or she is carrying a concealed firearm. By contrast, the intrusion upon privacy may actually be greater when a dog sniffs a person. As the Ninth Circuit noted, "the body and its odors are highly personal" and "dogs often engender irrational fear."[56]

Accuracy aside, the person/property distinction could also be relevant for gun scans if courts determine that the scans intrude upon an individual's bodily integrity in some way. Such an argument is most plausible if the scans emitted energy directed at the target (so-called active devices) and therefore posed health or other risks to persons scanned. But, as described earlier, we assume that the scanners will employ passive technology and therefore pose no greater health threat than other electronic devices.[57] This argument would therefore have to rely on a less tangible conception of bodily integrity, such as that described in a recent *New York Times* article: "At bottom, privacy may be about an almost metaphysical sense of vulnerability, akin to the fear in some cultures of having one's picture taken."[58] Such a rationale, however, is inconsistent with decisions regarding other electronic devices that target individuals. For example, the Fourth Amendment does not prohibit police from using street-level video cameras[59] or from targeting cars and motorcycles with speed guns.[60] And although standard metal detector scans are considered searches, they are distinguishable from gun scans because they reveal much more than concealed firearms.[61] In short, given that scanners are not physically intrusive, and that courts have not recognized a metaphysical privacy interest with respect to other electronic devices used by police, the fact that gun scans target individuals rather than property will probably not affect their permissibility.

Guns Scans Rely on Sophisticated Technology

Another possible distinction between gun scans and the searches in *Place* and *Jacobsen* is that the gun scans rely on technology that is not in wide use or readily available to the public. For some courts, this is a distinction that has affected whether the police use of a specific technology

constitutes a search.

When the police use their own senses to observe a person or object, from a position where they are permitted to be, the "inspection" is not generally considered a search — this is called the plain view doctrine. Similarly, courts have concluded that police use of commonly available sense-enhancing devices, such as flashlights or binoculars, to inspect areas exposed to the public does not constitute a search.[62]

However, in *Dow Chemical v. United States*,[63] the Supreme Court suggested that "using highly sophisticated surveillance equipment not generally available to the general public, such as satellite technology, might be constitutionally proscribed absent a warrant."[64] *Dow Chemical* involved a challenge to the use of a very sophisticated camera to photograph an industrial area from an airplane. Interestingly, the Supreme Court upheld the surveillance as not constituting a search because the camera could be purchased by the general public, albeit at a price of $22,000.[65]

We do not expect gun scanners to become widely available to the general public. And their use does not simply augment the senses of police officers in some traditional way. Therefore, if the courts choose to emphasize the availability of gun scanners to the general public as a factor in their constitutionality, their suspicionless use would likely constitute a Fourth Amendment search. But this is far from certain. As some commentators have noted, determining the permissibility of a surveillance technology based on its availability to the general public is less than ideal as constitutional doctrine.[66] It would mean that the constitutionality of gun scanners could change as their availability changed — and unanticipated commercial users of the scanners, such as private security firms, might develop over time.

Accuracy of Gun Scans

The accuracy of a search technique is critical to determining whether the *Place/Jacobsen* rationale should be adopted because the more inaccurate a search technique, the more frequently it will reveal non-contraband possessions. Too-frequent revelation of non-contraband items undermines the entire rationale behind *Place* and *Jacobsen*. In addition, the consequences of a false-positive gun scan may be perceived as more serious than for a canine sniff of property. When a gun scan falsely indicates that the target is carrying a concealed firearm, a body frisk by a police officer is likely. A false-positive dog sniff of a suspicious package, by comparison, may only trigger a property search. Therefore, courts may refuse to extend *Place* and *Jacobsen* to gun scans if the scans are (or, at least, courts perceive them to be) substantially less accurate than dog sniffs or chemical field tests.

Place and Jacobsen's Influence May Be Limited

In addition to issues that are specific to gun scanners, there are also reasons to believe that the *Place/Jacobsen* rationale might be more generally limited. First, *Place's* discussion of whether the dog sniff constituted a search was technically dicta: the Court ultimately excluded the evidence on other grounds, holding that the seizure of Place's luggage was unreasonably long.[67] Moreover, when the Court first articulated its rationale for why dog sniffs of luggage did not constitute a search, it noted that dog sniffs were unique and that it was aware of "no other investigation that is so limited both in the manner in which the information is obtained and in the content of the information revealed by the procedure."[68] This statement suggests that the Court might not have intended to extend its rationale to other investigative procedures.

Jacobsen, however, weakens both these arguments. First, by extending the rationale to chemical field tests, the Court acknowledged that dog sniffs were not unique and that the rationale could be applied in other situations. And as the Ninth Circuit noted, "Whether or not the statement in *Place* [about dog sniffs] was a holding or dictum, the Supreme Court has clearly directed the lower courts to follow its pronouncement."[69]

But the facts in *Jacobsen* suggest that it too might be limited. The *Jacobsen* Court found it noteworthy that the Jacobsens' privacy interest in the Fed Ex package had been compromised by a private third party before the government intervened, and it measured the government's invasion of the Jacobsens' privacy only "by the degree to which [it] exceeded the scope of the private search."[70] The Court concluded that Jacobsen could have no "privacy interests in the contents of the package, since it remained unsealed and since the Federal Express employees had just examined the package."[71]

Equally important, in both *Place* and *Jacobsen*, police already had at least some suspicion that the target of the investigation contained contraband.[72] Arguably, therefore, *Jacobsen* may be limited to situations in which the owner of the item being searched has already lost his or her reasonable expectation of privacy with respect to that item. This might happen with guns if, for example, a third party had seen an individual carrying a gun and had tipped the police. But police would not, according to this argument, be able to conduct random, suspicionless gun scans.

The dissent in *Jacobsen*, however, clearly recognizes that the rationale of *Place* and *Jacobsen* could permit random suspicionless scans, even if the actual facts of *Jacobsen* involved some police suspicion. Justice Brennan writes: "under the Court's analysis in these cases, law enforcement officers could release a trained cocaine-sensitive dog … to roam the streets at random, alerting the officers to people carrying cocaine. Or, if a device were developed

that, when aimed at a person, would detect instantaneously whether the person is carrying cocaine, there would be no Fourth Amendment bar, under the Court's approach, to the police setting up such a device on a street corner and scanning all passersby."[73] We can imagine no clearer analogy to suspicionless gun scans than such a "cocaine scanner." And although the dissent clearly views these devices with disdain, it nevertheless sees their use as a natural (albeit unwelcome, in their view) extension of the *Place/Jacobsen* reasoning.

Impact of a Recent Case: Kyllo v. United States

Finally, it is conceivable that the *Place/Jacobsen* rationale was not only limited but actually undermined by a recent Supreme Court case. In *Kyllo v. United States*,[74] the Supreme Court adopted a rule that, on its face, contradicts the rule in *Place* and *Jacobsen*. Upon closer inspection, however, *Kyllo*'s holding appears to be limited to searches of the home, and may not even apply to conduct that reveals only the presence or absence of contraband.

Kyllo involved a challenge to police use of a thermal imaging device that recorded how much heat emanated from house walls. Police used the device to identify houses that were likely using high-intensity lamps to grow marijuana. The Court held that the use of such devices constituted a search.[75] It stated that when "the Government uses a device that is not in general public use, to explore details of the home that would previously have been unknowable without physical intrusion, the surveillance is a 'search' and is presumptively unreasonable without a warrant."[76] Unlike *Place* and *Jacobsen*, *Kyllo* does not distinguish between "details of the home" that are "legitimate" and those that are not. Apparently, *Kyllo* would prohibit use of any device that was "not in general public use" and that revealed any information that would have been "unknowable without physical intrusion," even if that device only had the potential to reveal contraband or illegal activities.[77] On its face, this prohibition includes warrantless gun scans.

In addition, the Court argues that its rule must not "leave the homeowner at the mercy of advancing technology," and should "take account of more sophisticated systems that are already in use or in development."[78] This also suggests that the rule in *Kyllo* could be applied to prohibit future suspicionless uses of gun scanning technology. In fact, the Court even references the same NIJ program supporting the development of gun scanning technology – meaningfully, though, all of the technologies the Court discusses are designed for "*home* surveillance."[79]

Indeed, there is abundant language in *Kyllo* suggesting that its rule will likely be limited to searches of homes. The Court in *Kyllo* repeatedly emphasized that individuals have a higher expectation of privacy within their homes. For example, the Court wrote that: "At the core of the Fourth Amendment stands the right of a man to retreat into his home and there be free from unreasonable governmental intrusion."[80] There are numerous other examples.

Furthermore, other language in *Kyllo* suggests that *Place* and *Jacobsen* were not relevant to the Court's inquiry because thermal imaging is more intrusive than the searches in *Place* and *Jacobsen*. Not only did the Court's majority fail to discuss either *Place* or *Jacobsen*, but it implied that the thermal imaging device in *Kyllo* is distinguishable from dog sniffs and chemical field tests because it had the potential to reveal information about lawful activities, such as at what time "each night the lady of the house takes her daily sauna and bath."[81] Thus, *Kyllo* may not limit the application of *Place* and *Jacobsen* because it involved a more intrusive type of search.

When Are Concealed Firearms Contraband?

Even if courts extend the *Place/Jacobsen* reasoning to gun scans, police will still only be able to conduct suspicionless scans under circumstances in which concealed firearms are contraband. Determining when concealed firearms constitute contraband, however, is not straightforward. Unlike the drugs at issue in *Place* and *Jacobsen*,[82] concealed firearms can be carried legally in many states by many people.[83] There are, however, at least two theories for determining whether concealed guns are contraband in a particular state that, from both a logical and legal standpoint, may be most likely to be adopted by courts.

Permissiveness of Concealed Weapons Licensing Theory

First, courts could base their determination on the permissiveness of each state's concealed weapons licensing laws. According to this argument, concealed weapons will probably not be considered contraband in so-called "shall issue" states: states that require government officials to issue concealed weapon licenses to almost anyone who demonstrates firearms proficiency and passes a criminal background check.

There are at least three reasons to believe that courts might adopt this approach. First, it has the support of most commentators who have considered this issue.[84] Second, it has some logical appeal: since it is relatively easy to obtain a permit to lawfully carry concealed firearms in "shall issue" states, the risk of a false positive for contraband may be higher. And finally, language from at least two cases suggests that the permissiveness of a state's licensing laws has some bearing on whether police officers can arrest an individual based solely on the knowledge that that individual is carrying a concealed firearm.[85]

However, even in "shall issue" states there is some evidence that only a small proportion of those carrying

concealed weapons actually have a permit. Typically fewer than five percent of adults in shall issue states obtain a permit. And a recent study in Texas confirmed that few permit holders live in high-crime areas where gun scanners are most likely to be used.[86]

Burden of Evidence Theory

The second theory that courts could adopt has, perhaps, even greater logical appeal, but has not been addressed by any prior commentators. It has received only indirect (and mixed) support from courts. Under this theory, concealed firearms would be considered contraband in states where defendants who are charged with illegally carrying a concealed firearm have the burden of providing evidence that they were licensed to do so, rather than requiring the state to prove the absence of a license. The logic behind this theory is as follows: if the defendant has the burden of providing evidence that he was licensed, then the default assumption is that he carried the gun illegally, and that the gun, therefore, constitutes contraband.

There is limited case support for this theory. Indirect support comes from two California cases holding that police had probable cause to arrest a person carrying a concealed handgun because in California "the burden of proof is upon the carrier of such a weapon to show his license to carry it."[87] The Massachusetts Supreme Court has, however, rejected that argument. It held that police do not have probable cause to search or arrest an individual upon finding that he is carrying a concealed weapon even though, under Massachusetts law, a defendant charged with the crime of carrying a concealed weapon has the burden of proving that he was licensed to do so.[88]

From a national standpoint, concealed firearms will probably be contraband in more states under the burden-of-evidence theory than under the permissiveness-of-licensing theory. If courts adopt the permissiveness-of-licensing theory and conclude that firearms are not contraband in "shall issue" states, *Place* and *Jacobsen* could provide a sufficient basis for suspicionless gun scans in fewer than twenty states and the District Columbia.[89] By contrast, although there is not case law in every state that indicates whether the state or the defendant has the burden of proving lack of a license in charges of carrying a concealed firearms without a license, the majority of states that have considered this question place the burden on the defendant.[90] Our research indicates that, of the twenty-one states that have considered this issue, twelve place the burden on the defendant,[91] six place the burden on the state,[92] and three have conflicting case law.[93] Assuming this is a representative sample, if courts adopt the burden-of-evidence theory, concealed firearms will be contraband in more states than under the permissiveness-of-licensing theory.

Individuals for Whom Concealed Firearms are Always Contraband: Felons and Juveniles

There are at least two classes of individuals for whom concealed firearms will probably be contraband even in states where concealed firearms are generally not illegal: convicted felons and juveniles. Under federal law, convicted felons are proscribed from handgun purchase and possession, much less concealed carry.[94] Although there is a mechanism by which some felons may have their ability to own a firearm restored,[95] the proportion of convicted felons who may lawfully possess a firearm is likely to be quite small. Similarly, with only limited exceptions, federal law prohibits juveniles under the age of eighteen from possessing handguns.[96]

Concluding that handguns in the possession of felons or juveniles will nearly always be contraband, might allow police to conduct suspicionless gun scans of these individuals, under the *Place/Jacobsen* reasoning. However, in the absence of direct case law, other questions remain unanswered. For example, how much "evidence" would the officer require to conclude that the target was, in fact, a juvenile or a felon? Would the individual's appearance (in the case of a juvenile) or the officer's knowledge/belief regarding the individual's criminal record (in the case of a felon) be sufficient?[97] In addition, targeting only felons and juveniles for random or even routine scanning might raise concerns about discriminatory uses of the technology, triggering other constitutional issues such as equal protection and due process.

Guns Scans and the Special Needs Doctrine

As previously described, government searches are usually unreasonable unless based upon "individualized suspicion of wrongdoing."[98] An exception to this rule has been invoked in cases where "'special needs' other than the normal need for law enforcement provide sufficient justification [for the search]."[99] In these special needs cases, courts do not require individualized suspicion, but instead uphold the search as long as its primary purpose is to fulfill a special government need and the public interest at stake outweighs the intrusion on individual privacy.[100]

A few commentators have suggested that gun scans could fall into the "special needs" exception.[101] Steven Flores has argued that simply deterring gun violence may qualify as a special need.[102] The difficulty with this argument, as Flores acknowledges, is that most gun violence is criminal and deterring crimes falls squarely within the realm of criminal law enforcement.[103] However, at least one Supreme Court case suggests that crime deterrence can constitute a special need. In *Griffin v. Wisconsin*, the Court upheld the search of a probationer's home based only upon reasonable suspicion. The Court argued that supervision of

probationers constitutes a special need, in part, because "more intensive supervision can reduce recidivism."[104]

But in a recent special needs case, *Ferguson v. City of Charleston* (decided after Flores' commentary was published), the Supreme Court backed away from this part of *Griffin*. In *Ferguson*, the Court concluded that a public hospital's program to test certain pregnant women for cocaine use, and then turn that information over to the police for the purposes of prosecution, could not be justified under the special needs doctrine. Regarding the *Griffin* decision, the Court stated that that "*Griffin* is properly read as limited by the fact that probationers have a lesser expectation of privacy than the public at large."[105] Moreover, the *Ferguson* Court indicated that, in order for the special needs doctrine to apply, a search's "immediate objective" cannot be to "generate evidence for law enforcement purposes."[106] Because deterring gun violence is a purpose of law enforcement, it is hard to see how it could qualify as a special need after *Ferguson*. Of course, from a public health perspective, the crisis of gun violence in urban communities constitutes a compelling need; however, this is not the way courts have generally interpreted the special needs doctrine.

A second argument put forth by Flores and one other commentator is that the special needs doctrine could apply to scans if their primary purpose is successfully characterized as something other than law enforcement, such as protecting police officers or improving community relations.[107] Although both of these purposes appear to fall outside the scope of traditional law enforcement and therefore qualify as special needs, courts may be skeptical that they are the primary purpose behind the use of the scanning devices. In recent cases, the Supreme Court has "not simply accept[ed] the State's invocation of a 'special need,'" but has instead applied "close review" to determine the State's actual and immediate purpose.[108] In *Ferguson*, the Court described this distinction as critical. "Because law enforcement involvement always serves some broader social purpose or objective ... virtually any nonconsensual suspicionless search could be immunized under the special needs doctrine by defining the search solely in terms of its ultimate, rather than immediate, purpose. Such an approach is inconsistent with the Fourth Amendment."[109] The Court's analysis in *Ferguson* suggests that the determination of the primary purpose of the search is greatly influenced by the extent of police involvement.[110] Because police will actually be conducting the gun scans, courts may well conclude that the scans serve a law enforcement purpose rather than a special need.

Some kinds of suspicionless searches are permissible, however, even if conducted by law enforcement officials. In *Michigan v. Sitz*, the Court upheld highway sobriety checkpoints in which police examined all drivers passing through the checkpoints for intoxication.[111] The Court applied a balancing test and concluded that the magnitude of the state's interest in preventing drunk driving, coupled with some evidence for the effectiveness of the checkpoints, outweighed the minimal intrusion on drivers' privacy.[112] *Sitz* thus provides a tempting analogy for proponents of gun scans, who might argue that the public's interest in walking on safer streets outweighs the minor intrusion of police gun scans. But the Court has made it clear that *Sitz* and other checkpoint cases do not involve special needs.[113]

For *Sitz* to apply to gun scans, therefore, the scans must not be characterized as required by special needs, but instead directly analogized to the checkpoint cases. This might require the actual use of the scanners at some type of checkpoint. But even then there are several difficulties with this argument. First, the Court has suggested that the seizures involved in *Sitz* may be less intrusive than the searches of the body that would be involved in gun scans.[114] Furthermore, in *City of Indianapolis v. Edmond*, the Court struck down vehicle checkpoints designed to discover illegal drugs, explaining that, similar to the special needs doctrine, for a suspicionless search at a checkpoint to be valid, it must not have as its primary purpose "to advance the general interest in crime control."[115] The Court concluded that when "law enforcement authorities pursue primarily general crime control purposes at checkpoints such as here ... stops can only be justified by some quantum of individualized suspicion."[116] Therefore, even if suspicionless gun scans were directly analogized to vehicle checkpoints, they still might be impermissible since courts will likely conclude that their primary purpose is to deter crime.

Conclusion

As with much new technology, gun scanners may be associated with both benefits and burdens for society. Potential benefits include reduced rates of firearm-related violence, improved police officer safety, and the possibility of reduced feelings of harassment for community residents. Societal burdens include intrusions into formerly private areas and concerns about discriminatory uses of the technology.

How courts balance these benefits and burdens will affect the constitutionality of police uses of gun scanners, particularly suspicionless scans that have the potential to maximize both benefits and burdens. We have argued that existing case law and newly available data could allow courts either to permit broad uses of gun scanners or to limit their use to more narrowly defined circumstances, depending on whether gun scanning constitutes a Fourth Amendment search. Until the Supreme Court reaches a definitive conclusion, existing law may allow judges substantial discretion to apply their own perspectives and biases.

As public health practitioners, we of course have our own set of biases. Ultimately, it is our hope that new gun

scanning technology can help to reduce the unacceptable toll of gun violence in United States. But we acknowledge the civil liberties risks as well. By providing new data and considering the constitutional questions now, these issues can be discussed and debated *before* gun scanners are in wide use. Future public policy can then better reflect choices that maximize benefits and minimize burdens.

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41. See generally, W.R. LaFave and J.H. Israel, *Criminal Procedure*, (St. Paul, MN: West Publishing Company, 1992): 103–243. Of course, other constitutional provisions could still limit police actions if, for example, gun scanners were used to unfairly target racial or ethnic minorities.

42. Katz v. United States, 389 U.S. 347 (1967).

43. *Id.* at 361 (Harlan, J., concurring).

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49. *Id.* at 44–45.

50. *Id.* at 43, 46.

51. United States v. Place, 462 U.S. 696 (1983).

52. United States v. Jacobsen, 466 U.S. 109 (1984).

53. *Id.* at 124 n.24 (1984) ("[T]he reason [the search in Place] did not intrude upon any legitimate privacy interest was that the governmental conduct could reveal nothing about noncontraband items. That rationale is fully applicable here.").

54. W.R. LaFave et al., *Criminal Procedure*, 2d. ed., § 3.2(b), at 60 (St. Paul, MN: West Publishing Company, 1992); Harris, *supra* note 62, at 29; R. Iraola, "New Detection Technologies and the Fourth Amendment," *South Dakota Law Review*, 47 (2002): 8–32, at 25–26; S. Kamin, "Law and Technology: The Case for a Smart Gun Detector," *Law and Contemporary Problems*, 59 (1996): 221–62, at 241; R. Simmons, "From Katz to Kyllo: A Blueprint for Adapting the Fourth Amendment to Twenty-First Century Technologies," *Hastings Law Journal*, 53 (2002): 1303–58, at 1353.

55. B.C. v. Plumas Unified School District, 192 F.3d 1260, 1266 (9th Cir. 1999) ("[T]he level of intrusiveness is greater when the dog is permitted to sniff a person than when a dog sniffs unattended luggage...[and] the level of intrusiveness...is critical to whether the actions of government officials constitute a search.").

56. *Id.* at 1267 (internal citations omitted).

57. Paulter, *supra* note 31, at 31.

58. A. Liptak, "In the Name of Security, Privacy for Me, Not Thee," *New York Times*, November 24, 2002, at 4-1.

59. C.J. Miller, Annotation, *Employment of Photographic Equipment to Record Presence and Nature of Items as Constituting Unreasonable Search*, 27 A.L.R. 4th 532, 533 (1984).

60. The obvious objection to analogizing speed guns to gun scanners is that the speed guns target the vehicle and not the person. But this distinction is tenuous when applied, for example, to motorcycles. One could just as well argue that the gun scanner targets the gun and not the individual.

61. United States v. Bronstein, 521 F.2d 459 (2d. Cir. 1975) ("The magnetometer search is indiscriminate and the presence of sufficient metal willy-nilly leads to the body or baggage search.").

62. D.A. Harris, "Superman's X-Ray Vision and the Fourth Amendment: The New Gun Detection Technology," *Temple Law Review*, 69 (1996): 1–60, at 20–21.

63. Dow Chemical v. United States, 476 U.S. 227 (1986).
64. *Id.* at 238.
65. *Id.*
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67. United States v. Place, 462 U.S. 696, 709–710 (1983); see also Harris, *supra* note 62, at 33.
68. *Id.* at 707.
69. United States v. Beale, 736 F.2d 1289, 1291 (9th Cir. 1984).
70. United States v. Jacobsen, 466 U.S. 109, 115 (1984).
71. *Id.* at 119.
72. *Place*, 462 U.S. at 706 (concluding that the initial seizure of Place's luggage was permissible because the police reasonably suspected that his luggage contained narcotics); *Jacobsen*, 466 U.S. at 119 (noting that even before the government reopened the Fed Ex package, "it was virtually certain that it contained nothing but contraband").
73. *Jacobsen*, 466 U.S. at 138 (internal citations omitted).
74. Kyllo v. United States, 533 U.S. 27 (2001).
75. *Id.* at 40.
76. *Id.*
77. *Id.* at 47 (Stevens, J., dissenting).
78. *Id.* at 35–6.
79. *Id.* at 37.
80. *Id.* at 31 (internal citation omitted).
81. *Id.* at 38.
82. See, e.g., United States v. 37.29 Pounds of Semi-Precious Stones, 7 F.3d 480, 485 (6th Cir. 1993) (stating that illegal narcotics are intrinsically illegal to possess) *abrogated on other grounds as recognized by* United States v. Certain Real Property Located at 1650 Ashton, Detroit, Wayne County, Michigan, 47 F.3d 1465, 1470 (6th Cir. 1995).
83. Vernick and Hepburn, *supra* note 12.
84. LaFave, *supra* note 54; Harris, *supra* note 62, at 56–58; Iraola, *supra* note 54, at 25 n.135; Simmons, *supra* note 54, at 1353 n.10.
85. In holding that a police officer had probable cause to believe that a man carrying a concealed weapon was not licensed (and was thus in violation of Washington D.C.'s concealed carrying laws) the D.C. Court of Appeals explained it was "common knowledge … that with very rare exceptions licenses to carry pistols have not been issued in the District of Columbia for many years and are virtually unobtainable." See Bsharah v. United States, 646 A.2d 993, 996 n.12 (D.C. 1994). And in holding that an arrest based on an anonymous tip that a juvenile was carrying a concealed weapon was improper, the Florida Supreme Court cited Florida's "shall issue" statute and noted that in Florida "individuals are permitted to carry concealed weapons with a proper license." J.L. v. State, 727 So.2d 204, 209 (Fla. 1999). The court did not, however, specifically state that the fact that Florida was a "shall issue" as opposed to a "may issue" or "prohibited" state made any difference. See id.
86. Hood and Neeley, *supra* note 17.
87. People v. Superior Court for County of Santa Barbara, 2 Cal.App.3d 197, 202 n.7 (1969); see also People v. Tarkington, 273 Cal.App.2d 466, 468–69 (1969) ("For the purpose of probable cause at least, the existence of a license which validates the possession of what would otherwise be contraband need not be disproved by the investigating officer. It is the burden of the person possessing the weapon to show his license.").
88. Commonwealth v. Couture, 552 N.E.2d 538, 540–41 (Mass. 1990).
89. Vernick and Hepburn, *supra* note 12.
90. D.E. Sternberg, Annotation, *Burden of Proof as to Lack of License in Criminal Prosecution for Carrying or Possession of Weapon Without License*, 69 A.L.R. 3d 1054, 1057 (1976).
91. In California, Delaware, Hawaii, Indiana, Iowa, Massachusetts, Michigan, New Jersey, Rhode Island, South Carolina, Washington, and Washington, D.C., defendants have the burden of proving or providing evidence that they were licensed to carry a gun. See People v. Superior Court for County of Santa Barbara, 82 Cal. Rptr. 463, 466 n.7 (Cal. Ct. App. 1969); Lively v. State, 427 A.2d 882, 884 (Del. 1981); State v. Jenkins, 997 P.2d 13, 32–33 (Haw. 2000); Harris v. Sate, 716 N.E.2d 406, 412 (Ind. 1999); State v. Bowdry, 337 N.W.2d 216, 218–19 (Iowa 1983); Com v. Jones, 361 N.E.2d 1308, 1311 (Mass. 1978); People v. Henderson, 218 N.W.2d 2, 4 (Mich. 1974); State v. Ingram, 488 A.2d 545 (N.J. 1985); State v. Neary, 409 A.2d 551 (R.I. 1979); State v. Clarke, 396 S.E.2d 827, 827–28 (S.C. 1990); City of Seattle v. Parker, 467 P.2d 858 (Wash. Ct. App. 1970); Chapman v. United States, 493 A.2d 1026, 1029 n.4 (D.C. 1985).
92. In Alabama, Connecticut, Idaho, Oregon, Pennsylvania, and West Virginia, the state has the burden of proving that the defendant did not have a license to carry a concealed gun. See DKF v. State, 651 So.2d 48, 50 (Ala. Crim. App. 1994); State v. Smith, 518 A.2d 956, 960 (Conn. App. Ct. 1986); State v. Morales, 908 P.2d 1258, 1261 (Idaho Ct. App. 1996); State v. Brust, 974 P.2d 734, 737 (Or. Ct. App. 1999); Com v. Lopez, 565 A.2d 437, 439–440 (Pa. 1989); State v. Hodges, 305 S.E.2d 278, 284 (W. Va. 1983).
93. Georgia, Minnesota, and New York have also considered the issue, but their courts have provided mixed signals. Compare Jordan v. State, 304 S.E.2d 522, 524 (Ga. Ct. App. 1983) ("A prima facie case is established by proof that the defendant carried a pistol in a public place and he bears the burden of proving he has a valid license.") with Head v. State, 221 S.E.2d 435, 437 (Ga. 1975) (reversing conviction for carrying a concealed weapon because the State did not introduce evidence showing that defendant was unlicensed); compare State v. Paige, 256 N.W.2d 298,

304 (placing the burden on the defendant to come forward with some evidence of a permit) with State v. Burg, 648 N.W.2d 673, 678–79 (declining to follow the method of statutory construction in State v. Paige); and compare People v. Psilakis, 538 N.Y.S.2d 623, 624–25 (N.Y. 1989) (requiring defendant to introduce evidence that he was licensed) with People v. Ressler, 754 N.Y.S.2d 485, 488 (N.Y. 2003) (requiring only that defendant "assert[ ] as a defense that he possessed an appropriate firearms license").

94. 18 U.S.C. § 922(g)(1) (2002).

95. 18 U.S.C. § 925(c) (2002).

96. 18 U.S.C. § 922(x)(2) (2002).

97. See Waters v. Barry, 711 F. Supp 1125, 1138 (D. D.C. 1989) (noting that a curfew ordinance that criminalized the public presence of those under age eighteen would have given police officers probable cause to arrest any individuals that the officers reasonably concluded looked like a minor).

98. City of Indianapolis v. Edmond, 531 U.S. 32, 37 (2000).

99. Ferguson v. City of Charleston, 532 U.S. 67, 76 (2001).

100. *Id.* at 74 n.7.

101. G. Dery III, "Remote Frisking Down to the Skin: Government Searching Technology Powerful Enough to Locate Holes in Fourth Amendment Fundamentals," *Creighton Law Review*, 30 (1997): 353–392, at 387; S.S. Flores, "Gun Detector Technology and the Special Needs Exception," *Rutgers Computer and Technology Law Journal*, 25 (1999): 135–156, at 152; see also Harris, *supra* note 62, at 7; Iraola, *supra* note 54, at 27.

102. Flores, *supra* note 101, at 153–54.

103. *Id.* at 153; see also Harris, *supra* note 62, at 28.

104. Griffin v. Wisconsin, 483 U.S. 868, 875 (1987).

105. Ferguson v. City of Charleston, 532 U.S. 67, 80 (2001).

106. Ferguson v. City of Charleston, 532 U.S. 67, 82–83 (2001) (italics omitted).

107. Flores, *supra* note 101, at 153; Dery, supra note 101.

108. Ferguson v. City of Charleston, 532 U.S. 67, 81 (2001); Chandler v. Miller, 520 U.S. 305, 322 (1997).

109. *Ferguson*, 532 U.S. at 84.

110. *Id.* at 81–83 (detailing the extensive involvement of the police in the drug-testing program and concluding that the "immediate objective of the [drug tests] was to generate evidence for law enforcement purposes") (italics omitted).

111. Michigan v. Sitz, 496 U.S. 444 (1990); see also United States v. Martinez-Fuerte, 428 U.S. 543 (1976) (upholding suspicionless vehicle checkpoints near the Mexico border to prevent illegal immigration).

112. *Sitz*, 496 U.S. at 455.

113. In *Ferguson*, the Court stated that "the [Sitz] Court explicitly distinguished the cases dealing with checkpoints from those dealing with 'special needs.'" *Ferguson*, 532 U.S. at 83 n.21 (2001). In truth, the language in *Sitz* was not particularly explicit, see Sitz, 496 U.S. at 450 (stating that the special needs cases were "in no way designed to repudiate [the Court's] prior cases dealing with police stops of motorists on public highways"), which is probably why some courts before *Ferguson* treated *Sitz* as a "special needs" case. See, e.g., Ferguson v. City of Charleston, 186 F.3d 469, 477 n.7 (4th Cir. 1999) rev'd, Ferguson v. City of Charleston, 532 U.S. 67 (2001); Pierce v. Smith, 117 F.3d 866, 873 n.8 (5th Cir. 1997).

114. *Ferguson*, 532 U.S. at 83 n.21 (2001) (distinguishing *Sitz* and other checkpoint cases from drug tests by stating that "[the checkpoint cases] involved roadblock seizures, rather than the intrusive search of the body or the home") (internal citation omitted).

115. City of Indianapolis v. Edmond, 531 U.S. 32, 44 (2000).

116. *Id.* at 47.