Routine Body Scanning in Airports: A Fourth Amendment Analysis Focused on Health Effects

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Introduction

On January 25, 2011, the Transportation and Security Administration ("TSA") announced its intention to use Advanced Imaging Technology ("AIT") to screen all passengers in airports.[1] The announcement remains controversial because, while AIT has the advantage of detecting on-body explosives and thus augments flight safety, its use also raises health concerns. Conclusive research on the technology's long-term health effects is wanting. Moreover, since the TSA administers the scans routinely and without regard to any individualized suspicion, the practice raises Fourth Amendment concerns related to freedom from unreasonable searches.

This Note argues that while jurisprudence on medically intrusive searches fails to provide either clear support for or opposition to routine body scanning, the special needs doctrine requires TSA officials to have reasonable suspicion before scanning passengers, at least as long as AIT's impact on health remains uncertain. The Supreme Court has used a three-factor test to evaluate warrant requirements for searches that implicate medical concerns. The test yields inconclusive results in the case of AIT

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1. While AIT is a primary screening method, passengers may opt out by submitting to a pat-down search instead. U.S. DEP'T OF HOMELAND SEC., PRIVACY IMPACT ASSESSMENT UPDATE FOR TSA ADVANCED IMAGING TECHNOLOGY 2 (Jan. 25, 2011) [hereinafter TSA ADVANCED IMAGING TECHNOLOGY], *available at* http://www.dhs.gov/xlibrary/assets/privacy/privacy-pia-tsa-ait.pdf. However, since pat-downs usually require reasonable suspicion, the proffered alternative does not impact this Note's analysis. *See Thirty-Eighth Annual Review of Criminal Procedure*, 38 Geo. L.J. Ann. Rev. Crim. Proc. 3, 60–62 (2009) (explaining the reasonable suspicion requirement for pat-down frisks).

however, due to the technology's undetermined effects on health. In the case of special needs jurisprudence, however, the uncertain health risks ultimately provide a basis for requiring reasonable suspicion. Until the TSA can establish via independent scientific research that AIT does not pose a long-term risk to health, the TSA's practice of suspicionless body scans is—and will continue to be—in violation of the Fourth Amendment.

Part I of this Note gives pertinent information on the state of airport security today. It describes body scanning technology and the health concerns related to its use, and lays out relevant portions of the Fourth Amendment. Part II examines Supreme Court cases on searches that fell under the special needs doctrine, and examines the elements required for a search to qualify for the exception. Part III discusses case law on medically intrusive searches. Finally, Part IV explores the application of medical intrusion and special needs jurisprudence to the use of AIT in airports, and explains how the latter provides a basis for imposing a reasonable suspicion requirement on TSA's present use of body scans.

I. Background

A. The State of Airport Security Today

In order to gain an accurate view of the condition of airport security today, it is worthwhile to assess the government's interests in securing these transportation centers, describe the technology in controversy, and give an account of the health concerns raised to date.

1. Government Interests at Airports: Expedient Detection and Deterrence of Threats

The events of 9/11 changed the face of airport security. Prior to the attack, neither Congress nor the American people were particularly concerned about the possibility of suicide hijackings.[2] Congress had previously vested responsibility for flight security in the Federal Aviation Administration ("FAA"), an agency that perceived sabotage and explosives as the most significant dangers to aviation.[3] This pre-9/11 era security focused on obtaining intelligence that identified specific threats, passenger prescreening, checkpoint screening, and onboard security.[4] Passenger

2. *See* NAT'L COMM'N ON TERRORIST ATTACKS UPON THE U.S., THE 9/11 COMMISSION REPORT, at 82–83 (2004), *available at* http://www.9-11commission.gov/report/911Report.pdf (stating that the 1997 final report of the Gore Commission did not discuss suicide hijackings, and more than a decade had lapsed since the last domestic hijacking).

3. *Id.* at 82.

4. *Id.* at 83.

prescreening amounted to little more than no-fly lists and profiles to detect "'direct' threats,"[5] while search technology consisted of simple walk-through metal detectors and cargo X-rays.[6] Such checkpoint screening methods often suffered from detecting either too much or too little, often giving false positives while overlooking real threats.[7] In sum, the FAA's provisions required a specific threat in order to subject travelers to added scrutiny, focused on passenger rights, and "[did] not focus on terrorism."[8]

As the events of 9/11 made clear, the airline industry faced the threat of suicide bombers, and its security measures to date were inadequate. On that day, hijackers coordinated an attack that took control of four different aircrafts at three airports.[9] All members of the attack boarded successfully. While airport security subjected some to passenger prescreening, the only consequence was that the airline held their bags off-plane until the screened passenger boarded. Once boarded, they were able to hijack each plane, likely using mace to control some passengers, and stabbing others.[10] The hijackers turned each plane into "guided missiles, loaded with up to 11,400 gallons of jet fuel."[11] In the span of two hours, two planes crashed into the World Trade Center, one crashed into the Pentagon, and one plowed into a field in Pennsylvania after passengers defeated the attempted hijacking. The attack killed nearly 3,000 people,[12] completely destroyed or damaged buildings in the World Trade Center complex, collapsed part of the Pentagon, and imperiled the lives of tens of thousands.[13]

5. *Id.*

6. *See id.* at 2 (explaining passengers would be "screened by a walk-through metal detector," while "an [x]-ray machine . . . screened . . . carry-on[s]").

7. *See id.* at 84 (indicating "[m]any deadly and dangerous items did not set off metal detectors," while X-rays did little to "distinguish . . . [deadly items] from innocent everyday items"). Also telling is the FAA's decision to permit knives less than four inches long, for fear that a ban would cause too many false positives and exacerbate congestion at security checkpoints. *Id.*

8. *Id.* at 86. *See also Id.* at 85–86 (stating that "without 'specific and credible' evidence of a plot . . . the FAA's leadership focused elsewhere," and that "Congress concentrated its efforts on a 'passenger bill of rights' to improve capacity, efficiency, and customer satisfaction in the aviation system").

9. *See id.* at 1–14 (giving an account of the hijacking of American Flight 11 and United Flight 175 in Boston, the hijacking of American Flight 77 at Washington Dulles, and the hijacking of United Flight 93 in Newark).

10. *See id.* at 1–4 (giving an account of the hijackers pass through airport security and the events of each particular plane while in flight).

11. *Id.* at 4.

12. *See id.* at 552 n.188 (stating that the attacks killed 2,749 non-terrorists).

13. *See id.* at 311, 314 (explaining the damage to the Pentagon and the number of lives imperiled).

As a result, the government—now more than ever—has a significant interest in detecting and deterring terrorist threats in the context of air travel. The conditions at airports, however, pose a few challenges to this goal. First, the large volume of people at airports inherently creates a large volume of potential security threats. Second, because airport patrons must meet scheduled departures, officials have only a brief opportunity in which to assess whether each person presents a risk. Accordingly, a quick, non-discretionary way of screening every person is ideal; it enables the government to detect threats in a way that is sensitive to the volume of people and time pressures at airports. Significantly, such a method also acts as a deterrent, since TSA officials would screen everyone.

In addition to an expedient and non-discretionary method of screening, recent events underscore the government's interest in detecting non-metallic threats, which can be concealed underneath clothing.[14] In December 2009 for example, Umar Farouk Abdulmutallab attempted to detonate plastic explosives hidden in his underwear while aboard Northwest Airlines flight 253.[15] On another occasion, airport security found plastic explosives hidden in a passenger's shoes.[16] These encounters and others like them have given rise to a demand for screening measures that identify such dangers.

2. Congress Reacts: New Agency, New Legislation

In order to deal with the emerging threats to national security heralded by the 9/11 attacks, Congress created the TSA "to strengthen the security of the nation's transportation systems."[17] Congress also passed the Aviation and Transportation Security Act (the "Act") in November 2001, which set forth the major mandates for the agency.[18] Relevant portions of the Act appoint the TSA responsible for security in all modes of transportation and for the screening operations of passenger air transportation.[19] Significantly,

14. *See* Brian Bennett, *Pat-Downs Aimed at Finding Explosive; Easy to Carry and Hard to Detect, PETN is an Al Qaeda Favorite*, L.A. TIMES, Nov. 24, 2010 at A1 (indicating that the plastic explosive powder PETN, is easy to hide or transform; the only way to detect it is via body scans or X-ray cargo scans and that, even then, the effectiveness of detection devices hinge on the machine operator's expertise because the devices only detect anomalies).

15. *See id.* (stating that authorities believe Umar boarded Northwest Flight 253 with the plastic explosive powder PETN sewn into his clothing).

16. *Id.*

17. *Our History*, TRANSP. SEC. ADMIN., http://www.tsa.gov/research/tribute/history.shtm (last visited Mar. 3, 2011).

18. *Id.*

19. Aviation and Transportation Security Act, Pub. L. No. 107-71, 115 Stat. 597, 597–98 (2001). The Act also vests TSA with additional duties and powers, including developing

the Act required "as soon as practicable . . . screening or inspection of all individuals, goods, [and] property . . . before entry into a secured area of an airport"[20] and appropriated funds for accelerated research in on-person threat detection technology.[21] The Act thus signaled a shift in Congress' priorities: one from passenger satisfaction and efficiency, to piracy threat detection.

3. The Rise of Advanced Imaging Technology

Consistent with the mandates of the Act, in 2009, the TSA conducted pilot operations in nineteen airports to evaluate the use of AIT, including backscatter X-ray and millimeter wave devices.[22] A mere six of these airports used the technology as a "primary screening method," and only in a limited role;[23] that is to say, only six airports used AIT as a routine search procedure, whereby the TSA performed screenings on each passenger regardless of the level of suspicion aroused.[24]

Despite the small fraction of airports that used AIT routinely in 2009's pilot operations,[25] on January 25, 2011, the agency propelled AIT into a primary screening procedure,[26] thereby subjecting *all* passengers to AIT searches.[27] In exploring imaging technology, the TSA had hoped to find a way to "quickly, and without physical contact, screen passengers during primary or secondary inspection for prohibited items including weapons,

strategies for dealing with threats to transportation security, enforcing security-related requirements, and overseeing security measures at airports. *Id.* at 598.

20. *Id.* at 608.

21. *Id.* at 637–38.

22. U.S. DEP'T OF HOMELAND SEC., PRIVACY IMPACT ASSESSMENT UPDATE FOR TSA WHOLE BODY IMAGING 2 (July 23, 2009) [hereinafter TSA Whole Body Imaging], *available at* http://www.dhs.gov/xlibrary/assets/privacy/privacy_pia_tsa_wbiupdate.pdf (At the time, TSA referred to AIT as "Whole Body Imaging Technology." They later changed the name to AIT, which remains the current terminology.); Safer Air Act of 2010, S. 3536, 111th Cong. § 2 (2010) (as introduced June 24, 2010; referred to Committee on Commerce, Science, and Transportation).

23. S. 3536 (as introduced June 24, 2010; referred to Committee on Commerce, Science, and Transportation).

24. *See* Tobias W. Mock, Note, *The TSA's New X-ray Vision: The Fourth Amendment Implications of "Body-Scan" Searches at Domestic Airport Security Checkpoints*, 49 SANTA CLARA L. REV. 213, 217 (2009) (defining "primary screening").

25. Despite the limited number of airports using AIT in the pilot study, by December 23, 2010, TSA used AIT in 75 airports; the attack on Northwest Flight 253 hastened the technology's deployment. *See* Faye Flam, *Debating the Merits of X-ray vs. Millimeter-wave Airport Scanner*, PHILA. INQUIRER, Dec. 23, 2010, at A1 (explaining the effect of the Northwest flight 253 attack, and enumerating AIT's prevalence as of December 2010).

26. TSA ADVANCED IMAGING TECHNOLOGY, *supra* note 1, at 2 (stating "AIT . . . has moved . . . into normal screening operations"); *see generally* Mock, *supra* note 22 and accompanying text.

27. *See* TSA ADVANCED IMAGING TECHNOLOGY, *supra* note 1.

explosives, and other metallic and non-metallic threat objects hidden under layers of clothing."[28] To this end, body scanners have a sizable advantage over their predecessor, the metal detector, because they can detect "on-body plastic explosives and other nonmetallic explosives."[29]

AIT works by creating a full-body image of the passenger, while highlighting the particular regions where it detects foreign objects on a person.[30] Such technology can better alert officials to the kind of anomalies on the body that might signal a passenger carrying an explosive. The two types of AIT currently in use are the backscatter and millimeter wave devices.[31] The former relies on high-speed X-rays to scan the surface of the body,[32] detecting foreign objects where the rays deflect differently.[33] In the process, the backscatter delivers a dose of ionizing radiation, which the TSA says is "less than the radiation received in two minutes of airplane flight at altitude."[34] The backscatter is powerful enough to reveal matter underneath the skin, including medical implants,[35] and can produce images sharp enough to capture the shape of a person's navel, along with shapes of other, more private body areas.[36] In fact, the technology is so exact that the American Civil Liberties Union once likened the backscatter to a "virtual strip search."[37] Since then, the TSA has integrated software to distort the images that the machines produce, blurring both the face and the intimate

28. TSA WHOLE BODY IMAGING, *supra* note 22, at 3; *see also*, Susan Stellin, *Are Scanners Worth the Risk?*, N.Y. TIMES, Sept. 12, 2010, at TR3 (explaining that "[u]nlike metal detectors, these machines can detect objects made with other materials, like plastic and ceramic. [However,] they can't see anything hidden inside your body, or detect certain explosives.").

29. Safer Air Act of 2010, S. 3536, 111th Cong. § 2 (2010) (as introduced June 24, 2010; referred to Committee on Commerce, Science, and Transportation).

30. TSA ADVANCED IMAGING TECHNOLOGY, *supra* note 1, at 2.

31. *Id.* at 3.

32. TSA WHOLE BODY IMAGING, *supra* note 22, at 3.

33. *Id.* (stating "X-ray beam[s] scanned over the body[] . . . are reflected back from the body and . . . objects placed . . . on the body"; *see also* Flam, *supra* note 25 (giving one X-ray scanner engineer's description of how the backscatter works: "[T]he image comes from X-rays that bounce off the body. Different materials will scatter X-rays to different extents . . . so the images will reveal objects inside a person's clothing.").

34. TSA ADVANCED IMAGING TECHNOLOGY, *supra* note 1, at 3.

35. *Id.*

36. Mock, *supra* note 24, at 229.

37. *Id.*; *see also* Gary Stoller, Backlash Grows vs. Full-body Scanners; Fliers Worry About Privacy, Health Risks, USA TODAY, July 13, 2010, at 1A (describing AIT as "types of machines that can see underneath clothing").

details of the body.[38] Now, the TSA describes the resulting blurred image as comparable to a mere "chalk etching" of a person.[39]

The millimeter wave technology, on the other hand, "uses non-ionizing radio frequency energy in the millimeter wave spectrum to generate an image based on the energy reflected from the body." The TSA claims the energy projected onto the body during a scan is one hundred thousand times less than a cell phone transmission.[40] In the millimeter wave machine, "two antennas rotate around passengers and transmit the waves, which have a frequency [somewhere] between microwaves and infrared."[41] The waves go through clothing but not water, the main component of the human body, which stops the waves and reflects them back.[42] Since the relative degree of reflection or transmission depends on the material these waves strike, the machines should register items hidden under clothing as either darker or lighter regions; in turn, such disparate shading can indicate where on a passenger's body an official should search.[43]

4. Despite FDA Comment, Health Concerns Remain

While the emergent technology shows promise in meeting the government's interest in nondiscretionary screening at airports, it also raises health concerns. In April 2010, four members of the faculty of the University of California, San Francisco addressed a letter of concern to the Assistant to the President for Science and Technology.[44] The faculty expressed worry that the safety of the backscatter had yet to be "adequately demonstrated," and that the dosage, while safe if distributed to the entire body, was delivered only to the skin and thus may be too high.[45] The

38. Mock, *supra* note 24, at 230.

39. *See id.*, at 230 (reporting TSA to describe the new images as akin to a "chalk outline of a person"); *see also How it Works: Advanced Imaging Technology*, TRANSP. SEC. ADMIN., http://www.tsa.gov/approach/tech/ait/how_it_works.shtm (last visited Feb. 10, 2012).

40. TSA WHOLE BODY IMAGING, *supra* note 22, at 3.

41. Flam, *supra* note 25.

42. *Id.*

43. *Id.*; *see also* Stellin, *supra* note 28 (explaining that "[t]he 'millimeter wave' machines . . . do not use X-rays, [but rather] bounce electromagnetic waves off the body to produce a[n] image [similar to those produced by backscatters]").

44. Letter from Univ. Cal., S.F. Faculty to Dr. John P. Holdren, Assistant to the President for Sci. and Tech. (Apr. 6, 2010), http://www.npr.org/assets/news/2010/05/17/concern.pdf.

45. *Id.*; *see also* Marnie Hunter, *Airport Body-Scan Radiation Under Scrutiny*, CNN (Nov. 12, 2010), http://articles.cnn.com/2010-11-12/travel/body.scanning.radiation_1_backscatter-radiological-research-radiation?_s=PM:TRAVEL (stating that David Brenner,

professors voiced reservations about the backscatter's use on the elderly, children, patients with HIV or cancer, and women susceptible to breast cancer.[46] Finally, they cautioned that the "negative effects may on balance far outweigh the potential benefit of increased [threat] detection," and pressed for an independent evaluation.[47]

The Deputy Director for Technical and Radiological Initiatives of the Food and Drug Administration ("FDA") and the Chief Administrative Officer for the TSA wrote a response letter in October 2010.[48] In it, they claimed the FDA had regulated manufacturers to ensure radiation safety of full-body X-ray security screening systems since 1990.[49] The writers indicated that between 1998 and 2003, the FDA consulted its independent expert advisory committee, who raised issues regarding national radiation safety.[50] To address these issues, the FDA assembled "a working group of experts that included representatives from manufacturers, security agencies, and other regulatory agencies," who developed a national standard by which to evaluate radiation safety.[51] Specifically, the standard required facilities to ensure that no one received an effective dose in excess of twenty-five microREM in any twelve-month period.[52] The letter went on to state that backscatters deliver less than one-thousandth of that dose per screening.[53] Additionally, the FDA created a web page with information on the safety of radiation-emitting security devices. The site provides that the level of ionizing radiation produced in a single backscatter screening is less than the amount of naturally occurring radiation that a person receives in forty-two minutes of ordinary living.[54] Thus, in order to exceed the

Professor of Radiation Biophysics at Columbia University, believes skin cancer to be the likely concern).

46. Letter from Univ. Cal., S.F. Faculty to Dr. John P. Holdren, Assistant to the President for Sci. and Tech., *supra* note 44.

47. *Id.*

48. Letter from John L. McCrohan, Deputy Dir. for Technical and Radiological Initiatives, Food and Drug Admin., and Karen R. Shelton Waters, Deputy Assistant Adm'r/Chief Admin. Officer, Transp. Sec. Admin., to Dr. John P. Holdren, Assistant to the President for Sci. and Tech., Executive Office of the President, in Response to University of California San Francisco Regarding Their Letter of Concern (Oct. 12, 2010), http://www.fda.gov/Radiation-EmittingProducts/RadiationEmittingProductsandProcedures/ SecuritySystems/ucm231857.htm [hereinafter Letter from McCrohan and Waters].

49. *Id.*

50. *Id.*

51. *Id.*

52. *Id.*

53. *Id.*

54. *Radiation-Emitting Products: Products for Security Screening of People*, FOOD & DRUG ADMIN., http://www.fda.gov/Radiation-EmittingProducts/RadiationEmitting Productsand Procedures/SecuritySystems/ucm227201.htm (last visited Mar. 3, 2010).

safety standard dose limit, an individual would have to be screened more than one thousand times in one year.[55]

Despite the FDA's reply letter and website, scientists, Congress members, newspapers, and internet sources continue to express concern about the backscatter's impact on passenger well-being. The major health worries largely fall into one of four categories: the possible increased risk of cancer, the TSA's failure to ensure safety generally, the lack of independent oversight and testing, and questions regarding the device's functionality.

With respect to the cancer concern, the backscatter differs from medical imaging equipment similarly reliant on X-rays. Namely, the backscatter concentrates radiation dosage to the skin's surface and superficial tissue, while medical X-rays disperse radiation throughout the whole body.[56] Given the backscatter's novel distribution of radiation, "the long-term risks . . . of exposure [are] unknown and . . . the dose to the skin may be high enough to cause concern about increased risks of melanoma and breast cancer."[57] Also, some scientists are particularly worried about the risk of basal cell carcinoma, a type of cancer that often develops on the top of the head.[58] According to the director of Columbia's Center for Radiological Research, the backscatter delivers to the scalp twenty times the dose that the TSA and the airline industry typically quote as average.[59] Such excessive X-ray exposure is problematic because it can act as a cancer rate multiplier.[60] In sum, despite the response letter, the increased risk of cancer remains a source of apprehension.

Other reservations stem from uncertainty surrounding the TSA's ability to ensure safety generally. The TSA has failed to monitor X-ray devices in the past. For example, in 2008, the Center for Disease Control found that in some instances the TSA failed to detect when baggage X-ray machines emitted radiation above levels allowed by regulation standards.[61]

55. *Id.*

56. Charlea T. Massion & Adriane Fugh-Berman, *Traveling by Air? Go with the Grope: Prescription for Change*, WOMEN'S HEALTH ACTIVIST, Jan. 1, 2011, at 11.

57. *Id.*

58. Press Release, Representative Rush Holt, Holt Continues to Question Science, Effectiveness of TSA Full Body Scanners (Nov. 22, 2010), *available at* http://holt.house.gov/index.php?option=com_content&task=view&id=651&Itemid=18.

59. Gerald Helguero, *TSA Officials Defend Pat-Downs*, INT'L BUS. TIMES (Nov. 24, 2010, 4:09 PM), *http://www.ibtimes.com/articles/85394/20101124/officials-try-to-explain-reasons-for-pat-downs.htm* (citing the reservations of Columbia Professor David Brenner). Professor Brenner is also Director of the Center for Radiological Research.

60. *Id.*

61. Alison Young & Blake Morrison, *TSA to Retest Airport Body Scanners for Radiation*, USA TODAY (Mar. 14, 2011, 5:44 PM), http://www.usatoday.com/

At other times, the agency failed to take action when machines had missing or disabled safety features.[62] More recently, in March 2011, backscatter maintenance records showed radiation levels *ten times* higher than expected for some machines.[63] The TSA defended that the tests performed by its contractors reflected math errors and would be rerun.[64] In a statement on the topic, Senator Susan Collins said that "[m]ore than one in four reports—randomly selected from thousands of reports over two years and covering 15 airports—included gross errors about radiation emissions."[65] The reporting flaws left some Congress members unsure about the agency's ability to monitor the machines.[66]

The TSA's absence of independent oversight and the lack of conclusive, unbiased research establishing the backscatter's safety create a third concern. The TSA currently has exclusive responsibility in ensuring backscatters comply with radiation emission limits.[67] More troubling still, the TSA entrusts Rapiscan, a major manufacturer of the backscatter,[68] and other security screening system suppliers to perform some of its 'safety testing.[69] The TSA's reliance on private, for-profit companies in evaluating

travel/flights/2011-03-11-tsascans_N.htm?csp=34news&utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+usatoday-NewsTopStories+(News+-+Top+Stories) [hereinafter *TSA to Retest Body Scanners*].

62. *Id.*

63. *Id.* For more details on the errors, *see* Calvin Biesecker, *TSA Finds Fault With Contractor Testing of Radiation Emitted By Screening Equipment*, 249 DEFENSE DAILY 48 (2011) (reporting additional inaccuracies included "leaving out readings of background radiation, a 'lack of notation for the latest calibration date for the machine being tested,' missing information on warning labels, 'calculation errors not impacting safety' and leaving out other information").

64. *TSA to Retest Body Scanners*, *supra* note 61.

65. Biesecker, *supra* note 63.

66. *See* Alison Young & Blake Morrison, *TSA Reports Raise Scanner Concerns; Lawmakers Question Safety of the Devices*, USA TODAY, Mar. 14, 2011, at 3A (explaining "[a]lthough the TSA says the machines are safe . . . . [s]ome members of Congress aren't as certain).

67. *See TSA to Retest Body Scanners*, *supra* note 61 (noting "[t]he TSA is responsible for the safety of its own X-ray devices" and explaining that the FDA "does not routinely inspect the machines because they are not considered medical devices. The TSA's airport scanners are exempt from state radiation inspections since they belong to a federal agency").

68. Hugo Martin, *Maker of Full-Body Scanner for Airports Defends the Technology*, L.A. TIMES, Nov. 23, 2010, at B1 (indicating Rapiscan manufactured 211 of the 385 image scanners in use in airports at time of publication).

69. *See TSA to Retest Body Scanners*, *supra* note 61 (indicating Rapiscan engineers have tested backscatter radiation levels); Mike M. Ahlers, *TSA Orders "Re-tests" of Radiation Levels on Airport Body Scanners*, CNN (Mar. 11, 2011) http://articles.cnn.com/2011-03-11/us/tsa.body.scanners_1_body-scanners-tsa-radiation-levels?_s=PM:US (stating body scanner radiation "tests are conducted by manufacturers and contractors"); Biesecker, *supra* note

machine safety has led news and online sources to voice discomfort about its distinct lack of independent oversight.[70] Worries about the paucity of unbiased research were voiced by Senator Patrick Leahy in a Senate committee hearing where he pressed for an "*independent* assessment of *any* associated health effects" related to the backscatter.[71] Significantly, when the FDA conducted its assessment, it used a group of experts that included the manufacturers of AIT machines.[72] Arguably, Leahy's appeal implies that lack of harm to date and opinions of interested parties fail to adequately assure the safety of new, routine search technology. It could also imply that in the context of such search tools, the government has a responsibility to affirmatively demonstrate, via impartial investigation, the device's continuous and long-term safety.

Lastly, sources in medicine and academia have indicated distrust in the backscatter's functionality. Health professionals worry about over-radiation caused by miscalibrated scanners,[73] while one professor warns that broken machines put passengers at risk of receiving excessive doses of radiation, possibly even a radiation burn.[74] The above observations about backscatter safety, oversight and testing, together with concerns about over-radiation from the academic and health community, undermine the FDA's assurance of its safety in its response letter.

Meanwhile, millimeter wave scanners, the second type of AIT device, have not raised the same degree of uneasiness as the backscatter, at least not to date.[75] Similar to the backscatter, the FDA's website on radiation-emitting search devices assures that the millimeter wave technology is safe. The site provides that "millimeter wave security systems which comply

63 (explaining the TSA employs contractors to report radiation levels, including "firms [that] supply various systems [to] screen people").

70. *See supra* notes 61–63.

71. *Oversight of the Department of Homeland Security: Hearing Before the Senate Committee on the Judiciary*, 112th Cong. 3 (2011) (statement of Sen. Patrick J. Leahy, Chairman, S. Comm. on the Judiciary) (emphasis added).

72. *See supra* text accompanying note 51 (remarking that the FDA's group of experts included manufacturers).

73. *TSA Airport Scanner Tests Show More Radiation than Expected*, MCBROOKLYN (Mar. 12, 2011, 6:20 PM), http://mcbrooklyn.blogspot.com/2011/03/tsa-airport-scanner-tests-show-more.html.

74. Young & Morrison, *supra* note 61 (stating Peter Rez, a physics professor at Arizona State University, fears "the potential for a passenger to get an excessive dose of radiation or even a radiation burn if the X-ray scanning beam were to malfunction and stop on one part of a person's body for an extended period of time").

75. *See, e.g.*, Steve Strunsky, *TSA Official Softens on Controversial Airport Screening Procedures*, THE STAR-LEDGER (Nov. 22, 2010), http://www.nj.com/news/index.ssf/2010/11/tsa_official_appears_to_soften.html (stating Newark Airport's use of millimeter wave scanners have not raised the same concerns as backscatters).

with the limits set in the applicable national non-ionizing radiation safety standard . . . cause no known adverse health effect."[76]

Despite the FDA's assurances, new scientific findings cast doubt on the certainty of the millimeter wave's *long-term* impact on health. Specifically, a recent study by the National Institute of Health showed that the electromagnetic radiation emitted by cell phones during a fifty-minute phone call causes a "noticeable increase in brain activity."[77] While scientists need to conduct more research before they can conclude whether electromagnetic waves cause cancer, the study proves that the brain is sensitive to such a degree of electromagnetic radiation.[78] Future studies will need to explore the long-term health effects of prolonged stimulation.[79] Since millimeter wave searches expose passengers to electromagnetic radiation, one could argue the scanners' negative effect on the brain is similarly uncertain.

In sum, while the FDA's response letter addressed some of the health concerns surrounding the use of AIT, many questions remain, and undergoing a search by either device poses uncertain long-term consequences for passenger health.

B. Advanced Imaging Technology Implicates the Fourth Amendment

Beyond its interests in national security and questions surrounding public health, body scanning also raises constitutional concerns. The Fourth Amendment provides "the right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures."[80] The Supreme Court has also imposed "a presumptive warrant requirement for searches and seizures and generally requires probable cause for a warrantless search or seizure to be 'reasonable.'"[81] A "search" triggering constitutional concern occurs when the government invades a

76. *Radiation-Emitting Products: Products for Security Screening of People*, *supra* note 54.

77. Erin Allday, *Cell Phones Affect Brain Activity, Study Says*, S.F. CHRON. (Feb. 23, 2011), at A-1, *available at* http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2011/02/23/MNCO1HS9QJ.DTL; *see also*, Melissa Healy, *Phones Trigger Brain Activity in Study: The Findings Suggest Wireless Units May Be Altering the Way We Think and Behave*, L.A. TIMES, Feb. 23, 2011, at A10 (stating that the cumulative toll of cell phone use is similarly unknown).

78. Allday, *supra* note 77.

79. *Id.*

80. U.S. CONST. amend. IV.

81. *Thirty-Eighth Annual Review of Criminal Procedure*, *supra* note 1, at 3; *see also* 2 WAYNE R. LAFAVE, SEARCH AND SEIZURE: A TREATISE ON THE FOURTH AMENDMENT § 4.1(e) (4th ed. 2004) (stating "the Supreme Court has long expressed a strong preference for searches made pursuant to a search warrant").

person's privacy.[82] To determine whether a person's expectation of privacy is legitimate, the Court has employed a two-part test: First, the individual must have a subjective expectation of privacy, and second, society must be prepared to recognize that expectation as legitimate.[83] Courts have also considered the degree of intrusion when evaluating whether a government action constitutes a search; minimal intrusions, for example, have not qualified as searches.[84]

The TSA's use of AIT in airports implicates the Fourth Amendment because it constitutes a search. First, body scanners are used to reveal information about a person's body that would otherwise not be exposed to the public. An individual has a subjective expectation of privacy regarding their appearance underneath clothing.[85] Second, this expectation is one that society is prepared to recognize as legitimate. A number of the cases where the Supreme Court declined to find a legitimate societal expectation involved investigations where officials collected information that was otherwise publically accessible.[86] Here, however, the information sought is far from available to the public. Accordingly, body scans constitute a search, and trigger the presumptive warrant requirement.

While searches generally require probable cause or a warrant, courts have articulated several exceptions to the warrant requirement. Two departures from the warrant requirement that AIT searches might implicate include the special needs doctrine, and select cases of medical intrusion.

II. Jurisprudence on the Special Needs Doctrine

The "special needs" doctrine is one exception to the warrant requirement. Roughly, it allows the government to engage in warrantless searches in exceptional circumstances of governmental importance other

82. *Oliver v. United States*, 466 U.S. 170, 175 (1984).

83. *Thirty-Eighth Annual Review of Criminal Procedure*, *supra* note 1, at 5–6; *see also Katz v. United States*, 389 *U.S.* 347, 361 (1967) (Harlan, J., concurring) (stating "[m]y understanding of the rule that has emerged from prior decisions is that there is a twofold requirement, 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'").

84. *Thirty-Eighth Annual Review of Criminal Procedure*, *supra* note 1, at 8–9.

85. *See* Stoller, *supra* note 37 (stating that both the backscatter and the millimeter wave have been described as types of machines "that can see underneath clothing").

86. *See California v. Ciraolo*, 476 U.S. 207, 212–14 (1986) (holding that warrantless, aerial observation of one's backyard was not a search because such observations were from publically navigable airspace, and thus there was no subjective expectation of privacy); *cf. Kyllo* v. United States, 533 U.S. 27, 34–35 (2001) (holding that where the government uses a device that is not in general use to explore details of a home which would previously have been unknowable without a physical intrusion, such surveillance is a search).

than a law enforcement need.[87] Though courts have applied the doctrine in a wide range of searches, the cases share a common balancing test, which this Note calls "reasonableness balancing." Reasonableness balancing weighs the degree of intrusion into individual privacy on the one hand, against the "promotion of legitimate governmental interests served by such intrusion" on the other hand.[88] Where the latter outweighs the former, courts have allowed a warrantless search.

Administrative searches, border searches, government employee and student drug testing, inventory searches, and checkpoints all fall under the special needs doctrine.[89] While the concept applies to a variety of situations, the special needs analysis is context specific:[90] It requires courts to consider the government and privacy interests advanced in the particular setting in which the search takes place.[91] Disparate government interests and variant facts can lead to subtle differences in the standard across various contexts.

The remainder of this section considers persuasive authority for treating airports as special needs zones, and analyzes case law to find six factors that favor finding a special needs exception.

A. Supreme Court Dicta and Some Circuit Courts Treat Airports as a Special Needs Zone

Persuasive authority supports treating airports as special needs zones. In *Chandler v. Miller*, the Supreme Court noted that "where the risk to public safety is substantial and real, blanket suspicionless searches calibrated to the risk may rank as 'reasonable'" and offered "searches now routine at airports" as an example.[92] In *City of Indianapolis v. Edmond*, the Court alluded to airports enjoying special needs status when it stressed that

87. JOHN WESLEY HALL, SEARCH AND SEIZURE § 38.1 (3d ed. 2011). Neither judges nor academics uniformly define "special needs." Some sources use the phrase narrowly to refer to only those exceptions that occur in the context of employment and drug testing, while others treat the doctrine as an umbrella term, to refer to a class of exceptions to the warrant requirement that employ a common balancing test. *Compare Thirty-Eighth Annual Review of Criminal Procedure*, *supra* note 1, at 20, 133–39 (treating special needs as limited to employment and drug testing), *with* PHILLIP A. HUBBART, MAKING SENSE OF SEARCH AND SEIZURE LAW: A FOURTH AMENDMENT HANDBOOK 281–98 (2005) (treating special needs as encompassing all civil exceptions to the warrant requirement). This Note uses the term in the latter, more general, sense.

88. HUBBART, *supra* note 87, at 281.

89. *See* HALL, *supra* note 87.

90. *See* Chandler v. Miller, 520 U.S. 305, 314 (1997) (asserting that the special needs analysis is context specific).

91. *See id.* (prescribing courts "examin[e] closely the competing private and public interests advanced by the parties").

92. *Id.* at 323.

its holding invalidating drug checkpoints did "not affect the validity of border searches or searches at places like airports . . . where the need for such measures to ensure public safety can be particularly acute."[93] Also, at least five circuits have allowed a lower level of suspicion for airport searches when they were a minor intrusion and the search furthered the government's interest in curbing air piracy.[94]

B. Selected Special Needs Jurisprudence

One need not rely on persuasive authority to determine if the special needs doctrine applies to airport screenings, or whether such an application would exempt the TSA's use of AIT from probable cause requirements. A survey of Supreme Court cases flesh out six factors that courts consider in reasonableness balancing, and illustrate when these factors support a special needs warrant exception. Cases on administrative searches and border stops prove most helpful.

1. Administrative Searches

Camara v. Municipal Court marks an early case where the Supreme Court calibrated a search's Fourth Amendment procedural requirements after balancing the government and individual's interests at stake.[95] In *Camara*, a lessee refused to let a Public Health Inspector enter his apartment building to conduct a warrantless inspection for housing code violations.[96] While department officials performed such area-wide inspections based on region and pursuant to municipal code,[97] the Court held that absent a householder's consent, inspectors must still obtain a warrant.[98] More importantly, the Court made room for a context-specific

93. City of Indianapolis v. Edmond, 531 U.S. 32, 48–49 (2000).

94. *See* Burgess v. Lowery, 201 F.3d 942, 947 (7th Cir. 2000) (requiring passengers to step through metal detectors to detect weapons, absent reasonable suspicion, is justified because the intrusion is minimal when weighed against the danger of an armed flight passenger); United States v. Doe, 61 F.3d 107, 109–10 (1st Cir. 1995) (holding suspicionless X-ray screening of luggage for weapons is constitutional given the limited intrusion and substantial interest in curbing air piracy); United States v. Herzbrun, 723 F.2d 773, 775 (11th Cir. 1984) (reasoning that, in light of the danger of air piracy, airport security checkpoints are zones where special Fourth Amendment considerations apply); United States v. Marquez, 410 F.3d 612, 616 (9th Cir. 2005) (screening of passengers and baggage is subject to reasonableness balancing); United States v. Hartwell, 436 F.3d 174, 179–80 (3d Cir. 2006) (holding suspicionless searches at airports are permitted when they are minimally intrusive and well-tailored to the significant government interest in preventing terrorist attacks).

95. Camara v. Mun. Court, 387 U.S. 523 (1967).

96. *Id.* at 526.

97. *Id.* at 536–37. To be exact, inspectors conducted searches based on area code. *Id.* at 537.

98. *Id.* at 538.

evaluation of probable cause for these searches: "[W]here considerations of health and safety are involved, facts that would justify an inference of 'probable cause' to make an inspection are clearly different from those that would justify . . . criminal investigation."[99] In such situations, the test for a warrant is based on reasonableness, and consists of balancing the need to search against the level of invasion the search entails.[100] *Camara* thus introduced a relaxed standard of probable cause—one that hinges on reasonableness—when the objective of the search is ensuring health and safety.

The *Camara* Court based its holding on a "number of persuasive factors."[101] In parsing through the Court's decision, this Note locates six elements that make up reasonableness balancing, and which support finding sufficient probable cause for a warrant in this context.[102] First, the agency's objective for the search was non-criminal.[103] The department made housing inspections to prevent hazards to public health and safety, and ensure compliance with minimum standards meant to avert fires, epidemics, or unsightly conditions that cause economic blight.[104] Second, residents had a decreased expectation of privacy because such programs had a "long history of judicial and public acceptance."[105] Third, there was a significant nexus between the inspection and the government interest the search sought to protect: Building inspections prevented and deterred the kind of code violations that would cause the sorts of health risks that the government wished to avoid.[106] Fourth, the traditional test for probable cause was impractical because dangerous conditions had to be prevented, and it was "doubtful that any other canvassing technique would achieve acceptable results."[107] Meanwhile, inspections both remedied and deterred safety violations. This would not have been the case if inspections required

99. *Id.*

100. *Id.* at 536–37.

101. *Id.* at 537.

102. While the Supreme Court prefaced its holding with an explicit enumeration of only three broad factors, in fact, a total of six more nuanced factors seem apparent in *Camara*. *See generally* LAFAVE, *supra* note 81 (examining the Court's special needs decisions and analyses). Therefore, this Note will focus on a discussion of six factors common among Supreme Court decisions in assessing the reasonableness of special needs searches.

103. *Camara*, 387 U.S. at 535 (stating inspections were not "aimed at the discovery of evidence of crime").

104. *Id.*

105. *Id.* at 537.

106. *See id.* at 535–36 (noting "those most familiar with this field [agree] that the only effective way to seek universal compliance with the minimum standards required by municipal codes is through routine periodic inspections of all structures").

107. *Id.* at 537.

probable cause, since violations could be obscured from public view.[108] Moreover, inspections would have lost their deterrence value, since residents would be able to fix the violation in the time it takes to procure a warrant. Fifth, the searches were minimally intrusive. The search was not personal in nature,[109] and the decision to inspect was based on administrative appraisal of conditions in the area as a whole.[110] Since the inspectors' goal was building safety and not crime detection, and the searches did not single out a particular resident, arguably the building searches were less stigmatizing for citizens.[111] Sixth, the standard limited discretion: Inspectors had to get a detached and neutral magistrate's endorsement prior to searching without a leaseholder's consent. While the Court did not discard the warrant requirement, it tailored the standard for probable cause to a given context[112] based on reasonableness.

Later, in *New York v. Burger*, the Court specified when government actors may conduct warrantless administrative searches,[113] and again relied on reasonableness balancing in their decision.[114] The Court permitted warrantless searches on commercial premises of a "pervasively regulated" business when a substantial government interest informed the regulatory scheme and searches were necessary to further that scheme.[115] It also required that state inspection programs specify limits on the time, place, and scope of the warrantless searches.[116] In *Burger*, officers asked an auto junkyard owner for his license and vehicle ownership records.[117] The law required that owners keep such documents and give them to police upon request.[118] When defendant replied that he had neither, the police commenced a search pursuant to statute, which the Court upheld because junkyards were "pervasively regulated."[119]

108. *See id.* (indicating many conditions are not viewable from a public vantage point).

109. *Id.*

110. *Id.* at 535.

111. *See* LAFAVE, *supra* note 81, at § 10.5(a) (stating that an "inspection pursuant to an area or periodic housing inspection scheme is not stigmatizing because it is directed to a morally neutral class").

112. *Camara*, 387 U.S. at 538 (stating that a health official does not need to show the same kind of proof to a magistrate to obtain a warrant as one would need when searching for fruits of a crime).

113. New York v. Burger, 482 U.S. 691 (1987).

114. *See supra* note 102 and accompanying text.

115. *Burger*, 482 U.S. at 702–03.

116. *Id.*

117. *Id.* at 695.

118. *Id.*

119. *Id.* at 696.

Notably, the exception to the warrant requirement found in *Burger* falls in line with the six factors found in *Camara*. First, the search had a non-criminal objective. High vehicle theft rates led to expensive insurance premiums and auto accidents,[120] and New York residents bore the brunt of these costs. The regulation that allowed the search sought to reduce this financial burden,[121] and aimed to decrease auto theft by eliminating channels for thieves to transfer stolen cars.[122] Second, "closely regulated" businesses have a reduced expectation of privacy in their enterprise.[123] In the case of junkyards, owners had to obtain a state license and make certain records available to state officials; they also risked criminal penalty if they failed to comply with state provisions.[124] All three of these considerations supported finding the defendant had a reduced expectation of privacy. Third, there was a significant nexus between warrantless searches of auto junkyards and their records on the one hand, and the government's interests in economy and deterrence on the other; the junkyard searches enabled police to recover stolen items and deter theft.[125] Fourth, a warrant requirement was impractical because stolen cars passed quickly through an automobile junkyard, and such a requirement would have undermined the deterrent effect of frequent, unannounced inspections.[126] Fifth, the search was minimally intrusive. Owners maintained the records at issue for inspection purposes.[127] Also, because the state commissioned licenses contingent on documentation of vehicle title and compliance with inspections, owners had prior notice of the search. Sixth, statutory restrictions on the time, place, and scope of the search restrained discretion and functioned as a substitute for a warrant by informing owners of search conditions.[128]

Both *Camara* and *Burger* illustrate how a special need determined by reasonableness balancing justified an exception to the Fourth Amendment's warrant requirement: The former case allowed context-specific assessments of probable cause; the latter permitted a warrantless search.

120. *Id.* at 708.

121. *Id.*

122. *Id.* at 708–09.

123. *Id.* at 702.

124. *Id.* at 703–04.

125. *See id.* at 710 (stating the searches deter theft and assist in locating stolen items).

126. *Id.*

127. *Id.* at 694 n.1. In fact, police and owners alike refer to them as "police books." *Id.* at 694–95.

128. *Id.* at 711.

2. Border Searches

In *United States v. Martinez-Fuerte*,[129] the Supreme Court held that suspicionless routine stops at border checkpoints were constitutional, and engaged in reasonableness balancing in order to reach such a holding.[130] First, the stops had a non-criminal objective, namely to interdict the flow of illegal aliens and deter smuggling.[131] Second, travelers had a decreased expectation of privacy at such checkpoints due to a host of factors: the presence of passengers in their automobiles, statutes authorized border patrol agents to question suspected aliens and inspect vehicles for aliens, and Congress' longstanding national policy of regulating immigration.[132] Third, there was a significant nexus between the intrusion and the government interest the intrusion sought to protect. Officers administered the checkpoints on highways that offered a quick and safe entry into the United States. Accordingly, the checkpoints accomplished the dual purposes of detecting smugglers, and potentially forcing others to take less efficient paths, which would slow their travel and make them more vulnerable to roving patrols.[133] Fourth, a warrant requirement or even an increased level of suspicion would have been impractical: The heavy flow of traffic did not permit the particularized study of cars required to develop suspicion.[134] Moreover, it would have eliminated the deterrent effect on would-be smugglers. Fifth, for many reasons the practice was minimally intrusive: The stop did not consist of a search, but only a visual inspection; it was brief, involving only a question or two, or the production of a document; and the checkpoint interfered with legitimate traffic less than the alternative, namely, a roving patrol.[135] Furthermore, the checkpoint was not subjectively intrusive; it did not create fright or concern in the individual.[136] Since the search did not take motorists by surprise and checkpoints had visual signs of officer authority, the subjective intrusion

129. United States v. Martinez-Fuerte, 428 U.S. 543, 556–57 (1976).

130. For comparative purposes, this Note uses a six-factor framework to trace the Supreme Court's special needs balancing across various search contexts. Although the *Martinez-Fuerte* Court only names two general interests—the public interest and the interest of the individual—this Note refers to facts and analyses in the opinion that support a more detailed inventory of factors to bear on the Court's decision. *See supra* note 102 and accompanying text.

131. *Martinez-Fuerte*, 428 U.S. at 552, 557.

132. *Id.* at 551, 553, 561.

133. *Id.* at 556–57.

134. *Id.* at 558.

135. *Id.*

136. *Id.*

was low.[137] Sixth, since officers in the field did not decide the location of the checkpoint and could only stop cars at the determined checkpoint, they had limited discretion.[138]

By contrast, in *United States v. Brignoni-Ponce*, the Court refused to extend similar permissive standards to roving patrols at the border.[139] The case identifies conditions that will fail to justify suspicionless searches when the Court employs reasonableness balancing. In *Brignoni-Ponce*, the Court addressed a warrantless stop that consisted of questioning "usually . . . no more than a minute," and visual inspection limited to parts of the vehicle viewable by anyone standing alongside.[140] Similar to fixed border checkpoints in *Martinez-Fuerte*, officials did not search the vehicle or its occupants.[141] Unlike the checkpoints however, officers pulled drivers over in order to conduct the stop, and did so based on their personal discretion, without any advance notice.[142]

While the roving stop bore similarity to fixed border checkpoints in terms of its objective, privacy expectations, nexus, and impracticality of a warrant requirement, its intrusiveness and lack of limits on officer discretion led the *Brignoni-Ponce* Court to impose a reasonable suspicion requirement.[143] With regard to intrusiveness, roving patrols ranked higher in subjective intrusion because they often "operate[d] at night on seldom-traveled roads, and their approach . . . [could] frighten motorists."[144] Motorists' surprise, along with a lack of apparent and actual authority to conduct such stops, further added to the subjective intrusion. Also, permitting patrols to conduct roving stops in border areas would have left officer discretion unchecked. The Court noted that absent a suspicion requirement, the patrol "would subject the residents of these and other areas to potentially unlimited interference."[145] The Court considered the

137. *See id.* at 559 (finding that "[t]he regularized manner in which established checkpoints are operated is visible evidence, reassuring to law-abiding motorists, that the stops are duly authorized").

138. *Id.*

139. United States v. Brignoni-Ponce, 422 U.S. 873, 884 (1975).

140. *Id.* at 880.

141. *Id.*

142. *Id.* at 874–75.

143. *See Id.* at 885 (stating that, except at the border and its functional equivalents, officers on roving patrol may stop vehicles only if they are aware of *specific articulable facts, together with rational inferences from those facts, that reasonably warrant suspicion* that the vehicles contain aliens who may be illegally in the country) (emphasis added).

144. United States v. Martinez-Fuerte, 428 U.S. 543, 558 (1976) (discussing *Brignoni-Ponce*, 422 U.S. 873).

145. *Brignoni-Ponce*, 422 U.S. at 882.

subjective intrusion and lack of discretion to necessitate a higher quantum of suspicion than fixed border checkpoints. On these grounds, it required roving patrols to have reasonable suspicion before making a stop. The impermissible suspicionless border search in *Brignoni-Ponce*, when contrasted with *Martinez-Fuerte*, provides insight to search conditions required to pass reasonableness balancing.

III. Jurisprudence on Medical Intrusion

In addition to special needs searches, body scanning may also trigger Fourth Amendment issues related to medically intrusive searches. Part III of this Note lays out the Supreme Court's standard for assessing the constitutionality of such searches, referred to here as the "*Schmerber* factors," and examines how lower courts have used the factors to demarcate the threshold of reasonable, warrantless searches that implicate health concerns.

A. Supreme Court Cases on Medical Intrusion

The Supreme Court has addressed searches that implicate medical concerns on only a few occasions. In *Schmerber v. California*, the Court first espoused the three-factor test to determine the constitutionality of the search.[146] In *Schmerber*, a driver was hospitalized after a car accident.[147] Upon smelling alcohol, an officer arrested the driver and ordered a physician to take a blood sample despite the driver's refusal.[148] The Court found the compelled, warrantless blood withdrawal in this case permissible.[149] Officers did not violate defendant's Fourth Amendment rights because, first, the evidence was evanescent and second, the test was minimally intrusive, low risk, and tailored to the purpose.[150] In arriving at its holding, the Court cautioned that such bodily intrusions cannot be based on mere chance; police should have a clear indication that evidence will be found.[151] In this case, the probable cause for the arrest established probable cause for the search: It provided a clear indication that the search would render evidence of intoxication.[152] Moreover, the body's rapid elimination of alcohol and the time it took to transport defendant to the hospital made

146. Schmerber v. California, 384 U.S. 757, 766–72 (1966).

147. *Id.* at 758.

148. *Id.* at 758, 761.

149. *Id.* at 772.

150. *Id.* at 770–71.

151. *Id.* at 769–70.

152. *Id.* at 770–71.

the attempt to secure evidence of defendant's blood alcohol level appropriate.[153]

The *Schmerber* Court found the method of extraction reasonable because it was effective in determining intoxication and posed little trauma, pain, or risk to defendant's health.[154] Here, the defendant did not have reason for "fear [or] concern for health" because the test did not invite an unjustified risk of infection.[155] The manner in which the test was performed was reasonable because a physician administered the test in a hospital.[156] Courts have subsequently interpreted the case to require a court, when assessing a warrantless search that implicates health concerns, to weigh three factors: the risk to the individual, the intrusion on bodily integrity, and the community interest in accurately assessing guilt.

In *Winston v. Lee*, the *Schmerber* factors led the Supreme Court to declare certain kinds of medical searches impermissible.[157] In *Winston*, the state sought to compel the surgical removal of a bullet from a suspect's chest when the procedure required the suspect to undergo general anesthesia.[158] The police suspected the defendant of robbing a store, where the shop owner shot back and wounded the robber.[159] Police found the defendant wounded a few blocks away, and the shopkeeper identified him.[160] The Court decided the search was unreasonable and therefore unconstitutional under the Fourth Amendment.[161]

In finding the search unconstitutional, the Court applied the *Schmerber* balancing test: weighing the risk to the individual's safety and the intrusion upon bodily integrity against the community interest in accurately assessing guilt.[162] Regarding the risks, the Court stated that, despite probable cause, "a search for evidence of a crime may be unjustifiable if it endangers the life or health of the suspect."[163] The Court distinguished the search in *Schmerber*, where "all reasonable medical precautions were taken and no unusual or untested procedures were

153. *Id.* at 770.
154. *Id.* at 772.
155. *Id.* at 771–72.
156. *Id.* at 770–71.
157. Winston v. Lee, 470 U.S. 753 (1985).
158. *Id.* at 755.
159. *Id.* at 755–56.
160. *Id.* at 765.
161. *Id.* at 766.
162. *Id.* at 761–63.
163. *Id.* at 761.

employed"[164] from the surgery in *Winston*, which required probing incisions and put the defendant at risk of infection.[165] With respect to the intrusion on bodily integrity, the Court differentiated the procedure in *Schmerber*—a "commonplace" blood test—from the practice in *Winston*, which required administering general anesthesia to the defendant that would force him into an unconscious state.[166] The Court found the intrusion of the latter significant because the surgery involved "a virtual[] total divestment of respondent's ordinary control over surgical probing beneath his skin."[167] Finally, the community had a lesser interest in extracting the bullet in *Winston*, when compared to the search in *Schmerber*; in *Winston*, the state did not need the bullet to prove its case in light of the shopkeeper's identification and the wounded defendant's proximity to the crime shortly after its occurrence.[168] Thus, *Winston* reveals important limitations on constitutional, medically intrusive searches.

B. Lower Court Decisions Regarding Medical Intrusion

The Supreme Court has provided a three-factor test to determine whether a search that potentially implicates health risks violates the Fourth Amendment. While *Schmerber* and *Winston* offer important bookends for medically intrusive search jurisprudence, lower court decisions help to demarcate the threshold of reasonable, warrantless searches that implicate health concerns. Specifically, such decisions flesh out circumstances where a warrant or court order is required and when a search can be conducted absent additional procedural safeguards.

1. Searches that Require a Warrant or Court Order

The United States District Court for the Eastern District of Pennsylvania and the Seventh Circuit require greater Fourth Amendment procedural protections for searches involving non-consensual X-rays or general anesthesia of unknown risks, respectively.

In *United States v. Allen*, the United States District Court for the Eastern District of Pennsylvania held that affidavits in support of a motion to compel defendant to submit to an X-ray did not establish probable cause, and therefore denied the motion.[169] The court conceived of X-rays as no

164. *Id.*

165. *Id.* at 764–65.

166. *Id.* at 762, 765.

167. *Id.* at 765.

168. *Id.* at 765–66.

169. United States v. Allen, 337 F. Supp. 1041, 1043–44 (E.D. Pa 1972).

less intrusive than blood withdrawals and noted that, absent a warrant or special circumstances excusing a warrant, the search could not be authorized.[170] Thus, non-consensual X-rays required at least probable cause.

In *United States v. Husband*, the Seventh Circuit evaluated the reasonableness of a search of defendant's body while he was under general anesthesia.[171] In that case, police suspected that the defendant, Eunice Husband, had swallowed drugs at the time of his arrest.[172] Later, when the defendant appeared to be having a seizure, police transported him to the hospital and obtained a warrant to search "the body of Eunice Husband" for "illegal drugs, weapons, or contraband."[173] The doctor administered general anesthesia to treat the overdose *and* to facilitate the search.[174] The court discerned that evidence of the risk to Husband's health was unclear, the procedure seriously invaded the defendant's privacy and liberty interests, and the community had a strong interest in the search because the government could not likely prosecute without such evidence.[175] On balance, the deficit of facts explaining why the police did not provide the defendant "greater procedural protections, including application for a warrant . . . specifically authorizing them to administer a general anesthetic," led the court to grant a motion to suppress the evidence.[176] *Husband* supports the need for a specific warrant to administer general anesthesia when the procedure poses unknown health risks, at least in some situations.

Together, *Allen* and *Husband* support imposing additional procedural safeguards for searches using nonconsensual X-rays or general anesthesia with unknown risks.

170. *Id.* at 1043.

171. United States v. Husband, 226 F.3d 626, 628–629 (7th Cir. 2000).

172. *Id.*

173. *Id.* at 628.

174. *Id.* at 629.

175. *See Id.* at 631–33 (stating that the record was unclear as to the danger or safety of the general anesthesia, that defendant was not allowed to refuse treatment or determine his course of care, and was subject to compelled administration of general anesthesia; the passage also analyzes the community interest).

176. *Id.* at 635–36; *see also* United States v. Crowder, 543 F.2d 312, 316 (D.C. Cir. 1976) (holding a court order compelling the removal of a bullet was permissible since it was supported by probable cause, and because the operation was minor, performed by a skilled physician, and posed little risk).

2. Searches that Do Not Require a Warrant or Court Order

Some state supreme courts have held that medical searches in the form of stomach pumps and laxatives do not require a warrant. In drawing their conclusion, these courts have also used the *Schmerber* factors.

In *State v. Strong*, police apprehended a defendant who then admitted he swallowed crack cocaine.[177] Having also witnessed the defendant imbibe the drugs, the officers, acting without a warrant, took the defendant to a hospital, requested that medical personnel pump his stomach, and recovered the cocaine.[178] The court employed the *Schmerber* test and found the procedure did not pose a risk to defendant's health since it "involved virtually no lasting trauma or pain, and . . . was conducted in a hospital by medical personnel according to accepted medical practices."[179] Regarding the intrusion to defendant's interests in privacy and bodily integrity, the court concluded that a stomach pump was not an "unduly extensive imposition" on either interest; like the blood test in *Schmerber*, the stomach pump was "a common and accepted method of testing which normally does not cause any lasting ill effects."[180] Finally, in weighing the community interest in fair and accurate determinations of guilt, the court again found the stomach pump comparable to the *Schmerber* blood test because it was highly effective in determining the presence of the drug and, given the officers' observations and defendant's admission, the facts clearly indicated the search would produce the evidence.[181] On balance, the Iowa Supreme Court held that warrantless stomach pumping was a permissible search under *Schmerber*.

The Wisconsin Supreme Court reached a similar conclusion regarding the administration of laxatives. In *State v. Payano-Roman*, police watched defendant under surveillance after an informant reported defendant was trafficking drugs.[182] As officers identified themselves, they thought they saw defendant ingest a baggie of heroin.[183] When police explained to ambulance personnel what happened, they took the defendant to a hospital where staff treated him with laxatives.[184] The court applied the *Schmerber*

177. State v. Strong, 493 N.W.2d 834 (Iowa 1992).

178. *Id.* at 835.

179. *Id.* at 838.

180. *Id.* at 837 (quoting Breithaupt v. Abram, 352 U.S. 432, 442 (1957)).

181. *Strong*, 493 N.W.2d at 837–38.

182. State v. Payano-Roman, 714 N.W.2d 548, 551 (Wis. 2006).

183. *Id.*

184. *Id.* at 551–52 (indicating hospital personnel determined treatment, while one officer assisted and translated).

factors to determine the constitutionality of the search.[185] First, contrary to posing a risk to the defendant's health, the court noted that the laxative was "medically indicated" for the defendant's health, and a normal hospital practice.[186] Also, officers did not dictate the treatment; rather, medical staff decided the course of care.[187] Second, the defendant's bodily integrity would have been more compromised if personnel had *not* performed the procedure; forgoing intervention would have increased the time he was exposed to the fatal possibility that the baggie would rupture internally.[188] Third, regarding the community interest in accurately assessing guilt, the court found the circumstances clearly indicated that the laxative would produce evidence of the crime.[189] It concluded as much based on the officer's observation, the informant's accurate description of defendant, the procedure's efficacy in producing the heroin, and the government's need to use the procedure to obtain the evidence to make its case.[190]

In both cases, the state supreme courts cited commonality of treatment, administration dictated by medical personnel, and the ameliorative effect of the procedure to support their findings of low risk and low intrusion on bodily integrity. Moreover, since police observed defendant ingesting the drug, the courts also found a significant community interest in retrieval. *Strong* and *Payano-Roman* support finding warrantless administration of stomach pumps and laxatives to be reasonable searches when police believe they have seen a person ingest narcotics.

IV. Analysis of Medical Intrusion and Special Needs Search Jurisprudence in the Context of the TSA's Use of Body Scanning

Both strands of jurisprudence discussed above offer a possible framework for evaluating the constitutionality of the TSA's routine body scanning in airports. Part IV of this Note explores the application of medical intrusion and special needs jurisprudence to the use of AIT in airports. It concludes that while the permissibility of such a search is uncertain when analyzed in terms of medical intrusion, special needs jurisprudence indicates that, under current conditions, officials should be required to have reasonable suspicion before scanning airline passengers.

185. *Id.* at 557.
186. *Id.* at 558.
187. *Id.*
188. *Id.* at 559–60.
189. *Id.* at 560.
190. *Id.*

A. Application of Medical Intrusion Jurisprudence to Body Scanning

Since AITs use in airports amounts to a search that carries uncertain health risks, the practice falls within the province of medically intrusive search case law, and the *Schmerber* factors apply.

1. Risk to the Individual

It is not overwhelmingly clear that body scanning passes the first prong of the *Schmerber* factors, which evaluates the risk that the search poses to the individual. Courts assigned a low risk to procedures that were "commonplace,"[191] "involved virtually no lasting trauma or pain, and . . . [were] conducted . . . according to accepted medical practices."[192] Here, there is reason to determine that AIT fails on all three counts.

First, the backscatter and millimeter wave devices do not approximate the pedestrian nature of blood tests today. The medical procedures that constituted permissible intrusions were firmly rooted in the medical tradition, and had long histories of therapeutic use before they were ever used as a search method in the course of an investigation. The same cannot be said for the body scanner. Instead, Customs first employed the devices in airports around the year 2000[193] and the Food and Drug Administration has only regulated full body X-ray security screening systems since 1990.[194] Since the FDA has only recently begun to regulate the devices, their deployment as a routine search procedure is one of unprecedented haste relative to other search methods that posed possible health risks.

Second, it is uncertain whether the body scanning devices will result in lasting trauma since longitudinal studies are lacking, and both devices carry at least some risk of harm. In the case of the backscatter, for example, some scientists say that although the scanner's annual radiation is lower than the national standard, the radiation may still affect the skin unpredictably.[195] Also, the millimeter wave scanner poses the potential of altering brain activity.[196] Since both cancer and alterations to the brain may qualify as a lasting trauma, arguably both forms of AIT differ from the

191. *See* Winston v. Lee, 470 U.S. 753, 762, 765 (1984) (stating that the blood test in *Schmerber* was "commonplace").

192. State v. Strong, 493 N.W.2d 834, 838 (Iowa 1992).

193. Stephen Vina, Note, *Virtual Strip Searches at Airports: Are Border Searches Seeing Through the Fourth Amendment?*, 8 TEX. WESLEYAN L. REV. 417, 418 n.4 (2002).

194. Letter from McCrohan and Waters, *supra* note 48.

195. Mark Whitehouse, *This Week: Korean Crisis, Trading Sting, Black Friday*, WALL ST. J., Nov. 27, 2010, at A8.

196. *See supra* Part I.A.iv.

permissive blood withdrawal in *Schmerber*.[197] Such concerns increase when one considers the potential for machine malfunction that, in turn, can cause even greater harm through excess radiation emissions.[198]

Third, the lack of medical supervision of the search increases the risk it poses to the individual. While a government agency made the decision to conduct AIT searches on all airline passengers, by contrast, in *Schmerber*, *Payano-Roman*, and *Strong*, it was hospital personnel that decided to administer the intrusive search.[199] Presumably, the latter professionals are more adept in responding to, and avoiding, hazards to the individual's health. Moreover, while body scanning is administered in airports, permissive medical searches were performed in hospitals.[200] Certainly, such facilities are better equipped to address potential unforeseen complications. Additionally, body scanners have fewer regulatory safeguards than medical devices. The FDA distinguishes medical devices from non-medical, radiation-emitting products and subjects the former to more regulatory control.[201] In the case of medical devices, where a product's failure is reasonably likely to result in serious adverse health consequences, the FDA may order post-market surveillance of the device.[202] Meanwhile the agency does not compel oversight for similar radiation-emitting security products.[203] Because AIT's long-term safety remains an open question, the search's deficit of supervision—in its

197. Schmerber v. California, 384 U.S. 757 (1966).

198. *See* Alison Young, *Previous Problems with X-ray Machines Missed*, USA TODAY, Dec. 7, 2010, at 6A (stating that in 2003 and 2004, the Center for Disease found six luggage X-ray machines to violate federal radiation standards, some emitting more than two to three times the allowed limit, which TSA failed to notice).

199. *See supra* Parts III.A, III.B.ii.

200. *See* TSA WHOLE BODY IMAGING, *supra* note 22 (stating screenings take place at the airport); *Schmerber*, 384 U.S. at 758 (stating blood was drawn after defendant was already in the hospital); *Payano-Roman*, 714 N.W.2d at 552 (stating patient was administered laxative while in private hospital room); *Strong*, 493 N.W.2d at 835 (stating defendant's stomach was pumped at the hospital).

201. *See Medical Devices: Overview of Device Regulation*, FOOD AND DRUG ADMIN., http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/Overview/default.htm (last visited Mar. 3, 2011) (stating that medical devices are divided into three classes of increasing regulation); *Radiation-Emitting Products: Getting a Radiation Emitting Product to Market*, FOOD AND DRUG ADMIN., http://www.fda.gov/Radiation-EmittingProducts/ElectronicProductRadiationControlProgram/GettingaProducttoMarket/default.htm (last visited Mar. 3, 2011) (stating "[m]anufacturers may be subject to additional FDA regulations if their product is intended to be used in a medical application").

202. 21 C.F.R. § 822.4 (2011).

203. 21 C.F.R. § 1002.3 (2011) (indicating non-medical radiation emitting devices need only supply ultimate users with performance data).

environment, personnel, and regulatory oversight—may distinguish it from previous permissive medical searches.

2. Intrusion on Bodily Integrity

It is possible that a court could find that body scanners rank low on the second *Schmerber* factor, which evaluates the intrusion to the individual's bodily integrity, but such a conclusion is by no means a given. The scan does not require a total divestment of control of one's body, as general anesthesia does, and at first blush seems physically less imposing than the permissible stomach pump. Since travelers maintain autonomy over their body and the search demands passengers merely stand still for a short period of time, AIT proponents may argue the scans pose little intrusion.

Notwithstanding arguments that AIT amounts to only a mild imposition on the body, the devices differ from previously sanctioned medical searches. For example, in *Strong*, while concluding that the search did not intrude on a defendant's bodily integrity, the court also considered that the procedure did not result in any "lasting ill effects."[204] With respect to body scanners, however, research has yet to conclusively establish any absence of lasting ill effects.

Additionally, in *Payano-Roman*, when the court held that a particular intrusive search passed the *Schmerber* test, it was because the search's ameliorative benefit offset its intrusion: The defendant would have incurred a greater health risk if the search did not occur.[205] Use of AIT to search airport passengers does not result in a similar direct health benefit. While AIT's supporters may object by arguing that routine body scanning benefits passengers by ensuring safe travel on contraband-free aircraft, the analogy is shaky. The critical difference is that the *Payano-Roman* search was ameliorative, while AIT searches are preventative. In *Payano-Roman*, personnel conducted an intrusive search *after* defendant personally faced a hazardous situation. By contrast, the TSA conducts AIT searches to eliminate the *chance* that passengers *will* face a hazardous situation in the near future. Payano's search remedied an immediate threat; AIT deters a speculative one.[206]

204. *Strong*, 493 N.W.2d at 837 (quoting Breithaupt v. Abram, 352 U.S. 432, 442 (1957)).

205. *Payano-Roman*, 714 N.W.2d at 559–60 (where forgoing a stomach pump would have subjected the defendant to the danger of drug balloons rupturing).

206. To use a different comparison, TSA screens all passengers for dangerous objects. They employ the search measure to prevent hijackings because some previous passengers smuggled dangerous items on board. If the same reasoning applied in the *Payano-Roman* context, then personnel could pump the stomach of everyone with access to heroine while under police watch to prevent suspects from ingesting it because some suspects had ingested heroine while under police watch in the past.

3. Community Interest

The prong that weighs most heavily in favor of concluding that AIT is a permissive medical search is the third, which considers the community interest in accurate assessment of guilt. The TSA conducts searches with AIT for the purpose of expediently discerning airline security threats among volumes of people. An accurate assessment of guilt in this context likely prevents airplane hijacking and the losses that accompany it, as well as aids in the prosecution of attempted hijackers. As medical intrusion cases indicate, the community interest will be met if the searches detect security risks, and it would be difficult for the agency to otherwise accomplish its purpose.[207] AIT's strength lies in its ability to detect risks such as metallic and non-metallic explosives concealed on the body.

Critics of the technology may challenge its ability to serve the community interest on three grounds. First, opponents of AIT may question its efficacy in threat detection. It could be argued that intelligence and behavioral profiling is a better means to identify threats, since none of the hijackers in 9/11 used prohibited items. One could also point out that the device may not be foolproof since some scientists have already been able to prevent a simulated version of AIT from detecting objects.[208] Second, AIT does not protect against security hazards immediately outside secured boarding areas, yet much destruction can result from bombs in these areas. Third, it is not clear that it would be difficult for the government to accomplish its safety goals without resorting to the kinds of searches with indeterminate health effects. The European Commission, for example, has proposed alternative screening methods for expectant mothers, infants, and the disabled;[209] the proposal supports the inference that, at least for some European legislators, airport safety is not entirely dependent on backscatter screenings. Another option that does not pose health risks would be for scientists to ensure the millimeter wave scanner's radio waves differ from the potentially harmful radio waves found in cell phones. Since the availability of alternative search methods cuts against a finding of high community interest, the advent of security measures which do not rely on AIT weaken the community interest in the use of body scanners.

207. *See* Winston v. Lee, 470 U.S. 753, 765–66 (1984); *Payano-Roman*, 714 N.W.2d at 560.

208. *See* Flam, *supra* note 25 (stating that, while "[i]ndependent scientists can't get access to the scanners for tests . . . University of California physicists Leon Kaufmann and Joe Carlson used computer simulations [of AIT]. They focused on the X-ray scanners and discovered it was possible to fool them . . . .[It is possible to] make an object with diffuse edges [so that it is] harder to see.").

209. *See, e.g.*, Stoller, *supra* note 37.

These challenges are answerable, however. While 9/11 signaled a significant shift in aviation security, threats to airport security are not confined to the methods used in that single event. Abdulmutallab's attempt to detonate plastic explosives, for example, underscores the progressive nature of the methods hijackers use to disguise their plans. AIT meets the need to consistently detect security threats despite changes in form. Additionally, the argument may be made that breaches to airplane security are not on par with attacks outside secure boarding areas such that using AIT still meets the community interest. The justification for the distinction would hinge on accepting that such breaches now carry heavier symbolic meaning for the American people, as a result of the 9/11 attacks. Finally, a security measure need not be error-proof to be effective in meeting its goal. In light of only weak objections to AIT's satisfaction of the third *Schmerber* prong, a court would likely find the community interest in allowing AIT searches to be strong.

In sum, application of the *Schmerber* factors indicates that the TSA's use of AIT serves a significant community interest, but may carry sizable risks, and has an indeterminate degree of bodily intrusion. The *Schmerber* court held a warrantless search permissible when community interest was high, and both risk and intrusion on bodily integrity were low. Meanwhile, the *Husband* court required a warrant when, despite strong community interest, the search was low in risk and high in bodily intrusion. Comparison of the cases supports the proposition that a search will require a warrant in the face of a strong community interest when at least one other *Schmerber* factor is significantly high. While AIT serves a strong community interest, it is not clear that the risk or the intrusion is high enough to push AIT past the tipping point, whereby a warrant would be required. For a more definitive answer on the constitutionality of routine AIT searches, this Note turns to the special needs doctrine.

B. Application of Special Needs Jurisprudence to Body Scanning

Even if AIT supporters cannot justify its use pursuant to a *Schmerber* analysis, proponents might still rescue the constitutionality of AIT searches under the special needs doctrine, which allows deviations from probable cause and warrant requirements when a search survives the six-factor reasonableness balancing test. Relevant cases have found the doctrine available for inspections when: 1) the objective was non-criminal; 2) individuals had a decreased privacy expectation; 3) the search bore a sufficient nexus to the government interest; 4) requiring a higher level of

suspicion was impractical; 5) the search was minimally intrusive; and 6) agent discretion was limited.[210]

1. Six-Factor Reasonableness Balancing in the Context of Body Scans

a. Non-criminal Objective

In terms of its objective, the government's goal in employing AIT at airports serves the non-criminal purpose of detecting and deterring terrorist threats in the interest of public safety. Arguably, this interest is most reminiscent of that in administrative searches of closely regulated industries, where part of the government's goal was to protect the customers and employees of such businesses. However, AIT's objective is relatively weightier than that of housing inspections or border searches; while the government justified previous searches on the basis of avoiding economic blight and interdicting illegal immigration, AIT searches are meant to prevent potentially *lethal* activity. It follows that body scans serve a non-criminal purpose.

b. Decreased Expectation of Privacy

Travelers do not have a reduced expectation of privacy when it comes to body scanning. While at first glance it may be tempting to conclude that privacy expectations are lower due to federal regulation of the industry, closer inspection indicates that government supervision over airline passengers is more tenuous than its oversight of the typical regulated business owner. The latter must file for license and registration, and is thereby on notice that its ability to participate in the industry is contingent on its compliance with regulation. Meanwhile, the airline passenger's actions only come under regulation when he opts to fly. The lesser degree and frequency of government oversight in the case of the passenger distinguishes him from the closely regulated business owner. Also, passengers' advance notice of the search does not decrease the expectation of privacy as it did in the case of border checkpoints. Unlike the conditions in *United States v. Martinez-Fuerte*, advance notice of screening does not enable passengers to limit the information they reveal in the search. In *Martinez-Fuerte*, notice of the brief visual inspection of a car at a fixed checkpoint meant that the driver could limit what the officer sees by not carrying an item or hiding it from view. By contrast, airline passengers cannot take precautions to prevent TSA officials from viewing the contours of their body once inside the AIT booth. The search site is also unique; unlike searching a business during regular hours or a vehicle on a public

210. *See supra* Part II.B.

highway, AIT searches an individual's body. Finally, AIT's use in airports does not have a longstanding history of judicial acceptance like border searches and housing inspections. As a result, the TSA does not administer body scans in the context of a decreased expectation of privacy.

c. Sufficient Nexus to the Government Interest

Body scans do, however, have a significant nexus between the search and the government interest that they seek to protect. Screening passengers with AIT is meant to detect and deter threats to air traffic safety. The most recent threats include passengers who attempt to board flights with non-metallic explosives concealed on the body. Because AIT enables the TSA to detect such dangerous materials, which would not set off a metal detector or luggage scanners, the search carries the requisite nexus to the government interest it seeks to protect.

d. Impracticality of a Higher Level of Suspicion

A warrant requirement for body scans would be impractical due to difficulties it shares with fixed border checkpoints. The volume of passengers that the TSA must assess for security threats, along with added time pressures due to a patron's need to make scheduled flights, mean that officials have only fleeting opportunities for observation. Thus, such a high quantum of suspicion would likely never be met. Also, similar to *Martinez-Fuerte*, a warrant requirement would frustrate the goal of deterrence.

e. Minimal Intrusiveness

The search's level of intrusion fails to be minimal because the scan ranks high in subjective intrusiveness. Since AIT poses uncertain long-term health risks, the subjective experience of a body scan is similar to a roving patrol. Significantly, in *United States v. Brignoni-Ponce*, the Court found roving patrols subjectively intrusive *not* because the stops were actually intrusive, but because travelers did not have affirmative prior knowledge of their legitimacy.[211] In fact, the Court called the actual intrusion "modest," and the stop consisted of the same brief questions and visual inspection as warrantless fixed border searches.[212] Nonetheless, it found the search impermissibly invasive because passengers had no way to determine the safety of the stop beforehand. Regarding AIT, travelers also lack conclusive and independent assurance that the scans will not adversely impact their health. Furthermore, similar to roving patrols, the lack of

211. *See supra* Part II.B.ii.

212. United States v. Brignoni-Ponce, 422 U.S. 873, 880 (1975).

advance assurances of safety may lead passengers to find the scans frightening or annoying. Therefore, since both AIT and roving patrol searches potentially evoke fear or concern in citizens, it follows that body scanners rank similarly in level of intrusiveness.

f. Limited Agent Discretion

Finally, TSA officials have limited discretion in the airport context. Similar to fixed border checkpoints, screening takes place at a fixed location. TSA agents cannot choose whom to screen because the protocol calls for the screening of all passengers, and the scope of the search is limited to passengers entering secure boarding areas.

2. Reasonable Suspicion Required to Conduct Searches with AIT

Unlike permissive warrantless searches at fixed checkpoints and in closely regulated industries, primary screening at airports using AIT does not "pass" all six factors. The search is not minimally intrusive, and is not conducted pursuant to a decreased expectation of privacy. In *Brignoni-Ponce*, the Court imposed a reasonable suspicion requirement on roving patrol stops because such stops lacked the elements of minimal intrusion and limited discretion.[213] Similarly, airport body scans fall short on two elements, including the common element of minimal intrusion. One may reasonably argue that TSA officials should conduct the searches pursuant to the same standard as *Brignoni-Ponce*, since AIT searches are similarly deficient. For this reason, the current practice of suspicionless body scanning at airports is counter to precedent.

To cohere with precedent, the government has two options. It could limit the use of AIT to passengers whose behavior creates a reasonable suspicion. Alternatively, the government could eliminate the reasonable suspicion prerequisite by remedying the two special needs factors where screening is deficient. Most promising, the TSA could decrease the subjective intrusion, and thereby make the scans minimally intrusive, if independent research ruled out the technology's risk to health. Reducing passenger expectation of privacy proves more difficult, but a tentative solution could explore detecting threats via heat or color alone, so that TSA officials may not view the contours of a person's body.

Requiring the TSA to have reasonable suspicion to search using AIT, or insisting the agency remedy its special needs shortcomings before using AIT routinely, raises a practical difficulty. It frustrates deployment of quick and comprehensive threat detection and, perhaps, national security.

213. *See supra* Part II.B.ii.

Nonetheless, adamantly requiring the government to meet its special needs burden respects precedent and logic. The Court has consistently evaluated special needs searches according to six factors.[214] Relative to other search exceptions, the doctrine reflects that "the Fourth Amendment imposes only the weakest of restrictions on government intrusions outside of traditional criminal law enforcement."[215] It stands to reason that, in light of so few constraints and consistent judicial evaluation of all six factors, each constraint has considerable import, and should be satisfied for the exception to apply.

Moreover, obligating the government to meet its special needs burden despite the drawback makes sense policy-wise. Since the special needs doctrine applies to searches outside the criminal arena, it governs those searches that the general public will encounter most. Demanding adherence to the standards of the doctrine will help preserve safeguards for non-criminal searches.

Finally, requiring the government to forgo routine AIT use until search conditions meet all six special needs factors—or at least limit body scans to reasonably suspicious travelers—coheres with common sense. It is doubtless that before the government performs a suspicionless search on a large segment of the population, it should make available unbiased assessments of the search's safety. In the case of special needs, this consideration has even more force since the search population includes children and elderly. While adherence to the doctrine creates a practical drawback for AIT, a single drawback is not equivalent to a *fatal* drawback. A survey of the bigger picture—namely precedent, logic, policy, and common sense—provides reason for strict compliance with the doctrine despite the practical shortcoming.

Conclusion

Considering the volume of people and time pressures at airports, and in light of attacks on airline security, the government has a pressing need for an expedient, non-discretionary means of detecting security threats. The TSA's use of body scanning for primary screening, however, triggers health concerns because independent research has yet to establish the long-term safety of body scanning devices. Two strands of jurisprudence potentially inform the constitutionality of the agency's deployment of AIT: the special needs doctrine and case law addressing searches that implicate

214. *See supra* Parts II.B.i–ii.

215. Thomas Y. Davies, *The Supreme Court Giveth and the Supreme Court Taketh Away: The Century of Fourth Amendment "Search and Seizure" Doctrine*, 100 J. CRIM. L. & CRIMINOLOGY 933, 1035 (2010).

health concerns. The latter essentially hinges on an assessment of the *Schmerber* factors, which weigh the search's risk and intrusion on bodily integrity against the community's interest in conducting the search. While a *Schmerber* analysis does not yield conclusive support for or opposition to AIT, special needs jurisprudence provides an argument against the TSA's suspicionless body scans, and a basis for requiring reasonable suspicion. Namely, because travelers do not have a reduced privacy expectation when they submit to AIT, and under *Brignoni-Ponce* the search is likely intrusive due to its uncertain health risks, precedent dictates that body scans do not qualify for the special needs exception. Because the TSA conducts such scans routinely—that is, without reasonable suspicion—its current screening practice contravenes the Fourth Amendment. Routine body scanning's constitutional deficiencies are repairable, but not without inconvenience; correcting 'the special needs shortcomings of AIT will likely delay the technology's availability as a passenger screening tool. While strict adherence to the special needs doctrine creates a pragmatic drawback, the interests of precedent, logic, policy and common sense nonetheless compel steadfast compliance with the standard of balancing public and private interests when departing from Fourth Amendment procedural protections.