

TSA Security Body Scanners:

Safety vs. Ethics

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Introduction

Ever since the Attack on 9/11, America as a whole has taken steps to further protect herself and her people. We have all taken extra precautions to ensure that we as a nation would never be put in such terrible circumstances ever again. From states getting new identification requirements to airports boosting security, America has ensured that we would never once again be taken by surprise. One major step in protecting our country starts in the airports; after all, maybe if our airport's security would have been more alert and had better scanning equipment, the attacks on 9/11 could have been prevented. Now, with TSA taking extra procedures to make sure everything runs smoothly and changing the rules on what can and cannot be traveled with, we as travelers and non-travelers alike can have more peace of mind. But what happens when the new practices and equipment that were made to protect us, begin to be intrusive and ethically questionable? In this paper, I will be discussing Body Scanners and why they have been a popular topic of discussion ever since they were put into effect. Why they have been a major step in keeping us safe, but many people still argue the fact that they violate our privacy and are ethically wrong.

Body Scanner: What is it?

Today two types of body scanners are used, The Millimeter Wave AIT scanner and the Backscatter X-ray AIT scanner. Each one generates an image of a person's body in order to detect any hidden material under their clothes. The Millimeter Wave AIT scanner produces images that resemble the negatives of a photo with fuzzy outlines and faces. This is done by using non-ionizing radio

frequency energy to generate 3-dimensional images from the energy that is reflected from a person's body (tsa 2012). A Backscatter x-ray scanner uses low energy x-ray beams that produce a chalk like sketch of the body by scanning the surface of the body at a high speed (tsa 2012). They are placed at security checkpoints in the airport and in order for one to get to their gate; they must first enter the scanner. When they were first being used, only selected individuals were asked to step into the scanner. Nowadays, every person in line takes his or her turn in the scanner. Today, there are over 400 body scanners in over 70 airports nationwide that are continuing their efforts to keep us safe (Spencer 2010).

Potential benefits and risks

Although the benefits of having the body scanners are great and they allow the TSA officials to detect all sorts of harmful substances, there have also been cases where the scanners have been proved to not be so affective. In 2008, a passenger had actually passed through security at Ronald Reagan International Airport in Washington D.C. undetected. What had caused this story to gain so much popularity is the fact that the man had a gun on him as he passed through security. Once he went through he had remembered that he had a gun on his person and went back to alert officials of his mistake (Ahlers 2008). This caused many officials to argue the point that body scanners were not only unethical, but also inefficient. In another article written in USA Today by Thomas Frank, another test was conducted at two of the busiest airports in America and it was concluded that the screeners failed to detect small bombs hidden on undercover agents. The issue here is that although these scanners have been put in place, when put to the test, many objects go

undetected. Some argue this may be because now that these scanners have been put in place, TSA is not paying as much attention to what are in peoples bags, or small objects are making it through the scanner itself (Frank 2007). That being said, others claim that the benefits outweigh the risks. By putting travelers into the scanners TSA can monitor passenger activity and be alerted when something harmful is found. However on the other side of the argument, when these Body Scanners have really been put to the test, conclusions have shown that Body scanners have not always done what they were set to do.

One key health aspect that I came across while doing my research was whether body scanners could affect our health. On the TSA fact sheet on the U.S department of Homeland Security they claim that the radiation that is passed into a person's body is very minuet, less than .10 microsieverts (tsa 2012). TSA states that this is safe because;

"It is all around us. We are continuously exposed to this background radiation. In 17 minutes of ordinary living, a person receives more radiation from naturally occurring sources than from one scan." (tsa 2012)

According to an article written in the Journal of Radiology, there could be some health risks associated with the radiation that passes through your body while you are being scanned. Dr. David J. Brenner discusses how in individual cases, the radiation emitted is low enough to be considered "safe" for people who only travel a few times a year. For more frequent fliers, and flight personnel, the risk of cancer is higher (Brenner 2011). Brenner states that we should be concerned about the long-term consequences of having a large amount of people exposed to small amounts of

radiation. He also claims that there are better alternatives that do not include ionizing radiation that officials must consider. (Brenner 2011).

Legal and Ethical Issues

One major legal and ethical issue is the argument that body scanners have breached child pornography laws and have been said to generate indecent pictures of minors and adults alike. Some officials have said that the scanner is like a “virtual strip search” because the images produced are so graphic (Travis 2010). Because of this, some airports in the U.S and in other countries, such as Great Britain where scanners are also used, have been forced to exempt children under the age 18. This is because they could be faced with committing offenses having to do with child pornography. In an airport in Manchester, there was a 12-month trial period where the scanners were tested to see just how invasive the images were. During this 12-month period, several graphic images were generated including some that showed breast enlargements, parts of a person’s genitalia and other private images (Travis 2010). Another main concern is the issue of privacy and how the scanner might violate our amendment rights to privacy and our fourth amendment rights to unreasonable search and seizure. Many privacy campaigners argue that the scanners do just this, they may assist in protecting us, but it is done so in a very intrusive way that many people feel invades their privacy (Klitou 2008).

Security Concerns

Many officials argue against body scanners because they believe that they will not help in minimizing dangerous activity. According to BBC news, airport body scanners will not be able to detect explosive devices used by many terrorist groups.

This is because scanners cannot detect liquids or plastics. The scanners are mainly used to detect irregularities on a person's body (bbc 2010). That being said, liquid explosives can still make it on to a plane without being detected at all. Another concern is the fact that although scanners will detect mostly everything that you have under your clothes, it cannot detect what is hidden in your body cavities. This is a main concern because that is a method commonly used when someone is attempting to smuggle something prohibited (Israel 2010).

Conclusion

To this day there are many questions that need to be answered as to what is the next step that needs to be taken in order to better the scanners. Although putting the scanners in airports have brought us closer to having a safer nation, it has not done all it could to keep us safe. There have been many incidences where the scanners have completely missed objects that could have been a threat. Personally, the ethical issues and the risks they pose are greater than the benefits. Me being a frequent traveler, I do not feel comfortable when I am placed into the scanner and watch as my very detail image gets put on surveillance screen. I do believe it is an invasion of privacy and unreasonable in some circumstances. There are many kinks that need to be worked out because the scanners still cannot detect invisible threats such as liquids and what could be inside a person's body. Going back to Brenner, there are better ways of detecting something harmful without passing radiation through a person's body as well. Also, in order for this system to be really successful, these body scanners need to be placed in more than just a few countries. So far, The U.S. is one of the only countries that have scanners into place;

Great Britain has scanners in some of their main airports as well. So far, Germany has rejected the idea of placing scanners at their airports (Israel 2010). What if someone was traveling into the U.S with something harmful? Not much can be done then. I believe that this is the beginning of something that can be potentially helpful and beneficial, but many years of research and perfecting the scanners is still needed. Hopefully one day there will be an improved version of the scanner that everyone can agree on that will keep us all safe without being so controversial in nature.

Sources

Spencer, M. (2010, November 6). *The story behind the tsa body scanners*. Retrieved from <http://www.bizjournals.com/stlouis/news/2010/11/24/the-story-behind-the-tsa-body-scanners.html>. Web. feb 2012.

-This article was important because what body scanners are and how they have been put into effect and how many scanners are in place today.

Airport scanners unlikely to foil al-qaeda. (2010, January 10). Retrieved from http://news.bbc.co.uk/2/hi/uk_news/8439285.stm web. Feb 2012.

-This article contains helpful information for my paper because it discusses the importance of further developing the scanners because some dangerous threats still go undetected, such as liquid explosives.

Brenner, D. J. (2011). Are x-ray backscatter scanners safe for passenger screenings?. *Journal of Radiology*, (259), 6-10.

-This article is important because talks about the dangers of being exposed to the radiation of a scanner and how it effects our health.

Israel, B. (2010, January 6). 5 reasons body scanners may not solve our terrorism problem. *Discover Magazine*, Retrieved from <http://blogs.discovermagazine.com/80beats/2010/01/06/5-reasons-body-scanners-might-not-solve-our-terrorism-problem/>. web. Feb 2012

-This article is important to my article because it talks about several reasons why people oppose the scanners in detail and why they aren't very beneficial.

Ahlers, M. M. (2008, January 23). *Loaded gun slips through airport security*. Retrieved from <http://edition.cnn.com/2008/US/01/23/airport.gun/index.html>. Web. Feb 2012.

-This is another article that talks about how the scanners were tested by officials and missed possibly dangerous threats.

Frank, T. (2007, October 17). *Most fake bombs missed by screeners*. Retrieved from http://www.usatoday.com/news/nation/2007-10-17-airport-security_N.htm. Web. Feb 2012.

-This article is another article that further supports that fact that scanners miss potentially dangerous materials and officials question its efficiency.

DHS Fact Sheet: Advanced Imaging Technology (AIT) Health & Safety. U.S Department of Homeland Security. <http://www.tsa.gov/>. web. Feb 2012.

-This info sheet was important to my paper because it was straight from the TSA website and it talked about the different scanners used at airports and how they capture images and it also gives their viewpoint on radiation exposure.

Klitou, D. (2008). Backscatter Body Scanners- A strip search by other means. *Computer Law and Security Review Journal*, 24(4), 316-325.

-This article was important because it discusses how TSA uses the scanners and it also interprets the amendments and how some officials believe the searches violate our amendment rights to privacy.

Travis, A. (2010, January 4). *New scanners break child porn laws*. Retrieved from <http://www.guardian.co.uk/politics/2010/jan/04/new-scanners-child-porn-laws>. Web. Feb 2012.

-This article discusses how the scanners have had several issues dealing with child pornography because of the images being so detailed. It talks about what has been done

in order to not violate child laws. This article also talks about how the images have been controversial because of how graphic they are.