



**Transportation
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CastScope

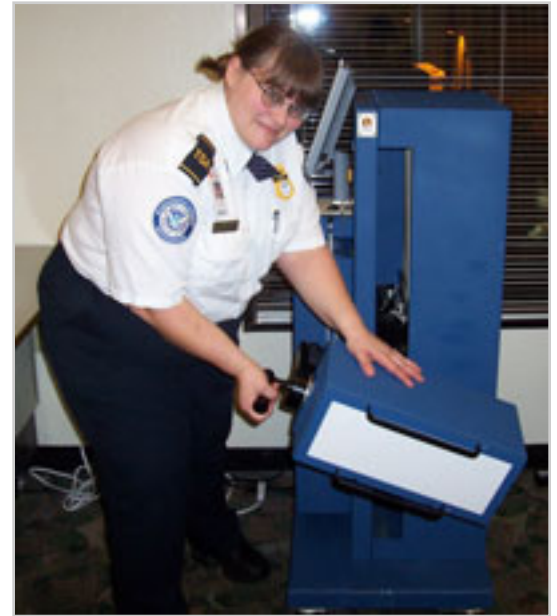
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TSA Begins Piloting of New CastScope Security System at Airport Checkpoints

TSA will be piloting the new CastScope screening system at four airports over the next several weeks. In an effort to improve the screening of passengers with prosthetic devices, casts, and support braces, TSA awarded a prototype contract to Spectrum San Diego, Inc. The TSA has reviewed CastScope for feasibility, effectiveness, safety, and civil liberty concerns.

The CastScope pilot began on April 25, 2007, at San Jose International Airport, (SJC). TSA will also pilot the technology at Tampa International Airport (TPA), Nashville International Airport (BNA), and Reagan National Airport (DCA) in May and June 2007.



In the pilot phase, passengers with prosthetics, cast, or a brace will participate on a voluntary basis. This new system enables TSA to screen simultaneously and more thoroughly for threats, and is sensitive to passengers with special needs.

To learn more about the CastScope, please see the frequently asked questions below:

Frequently Asked Questions

Q: What is the CastScope X-ray?

A: The CastScope uses backscatter technology to produce an X-ray image of casts, braces, heavy bandages, and/or prostheses, allowing TSA to quickly and non-invasively identify any potential threats.

Q: What is backscatter technology?

A: Backscatter scans a narrow, low-energy X-ray beam over the body surface. The reflection, or backscatter, of the beam is detected, digitized and displayed on a monitor. The high contrast image generated allows TSA to differentiate between articles such as braces, prosthetics, and external medical devices, and prohibited items.

Q: What is the purpose of the CastScope X-ray?

A: The CastScope was designed to supplement the walk-through and hand-held metal detectors for passengers with casts, braces, heavy bandages, or prosthetics that may alarm because of the metallic components of the devices by providing an X-ray image for TSA to assess concealed threats.

Q: How long does it take to be scanned by the CastScope?

A: The scanning cycle lasts approximately 2.5 seconds, and produces a computer-enhanced image of the 6x8-inch examination area almost immediately on the computer screen.

Q: What is the difference between backscatter X-rays and medical X-rays?

A: Backscatter X-rays only penetrate approximately $\frac{1}{4}$ of an inch before the rays are scattered, whereas medical X-rays transmit completely through the body. For comparison, the CastScope emits less than 10 microRem of radiation per scan and a typical medical X-ray emits 10,000 to 100,000 microRem per scan.

Q: How much radiation exposure is produced from 1 scan of the CastScope? Is it safe?

A: One scan is equivalent to approximately 10 microRem of radiation. This is equivalent to the exposure each person receives in about two minutes of airplane flight at altitude or each person receives every 15 minutes from naturally occurring background radiation.

Q: How is it verified that the CastScope X-ray is in compliance with safety standards?

A: The device was designed to comply with the ANSI/HPS N43-17 standard and recommendations of the National Council on Radiation Protection and Measurement. Both standards detail procedures for measuring the radiation emissions from the source (scanning head). Certified personnel check the radiation emissions periodically per the procedures outlined by the ANSI and NCRP standards and recommendations.

Q: Can the radiation exposure from the CastScope X-ray cause cancer?

A: Exposure to low levels of ionizing radiation not exceeding those from the environment has not been shown to affect human health.

Q: How intrusive is screening using the CastScope?

A: Not at all. It is not necessary to raise or remove any article of clothing that may be covering the cast, brace, or prosthesis to image the area where the prosthetic, cast, or support brace are worn.

Q: Can the CastScope damage an advanced prosthetic (with integrated circuitry)?

A: No, the CastScope will not damage mature or state-of-the-art devices.

Q: Will CastScope screening damage implanted medical devices such as pacemakers, defibrillators, or bone growth simulators?

A: No. The CastScope does not emit a magnetic field and will not cause any adverse medical consequences to implanted medical devices or any other disability-related equipment.

Q: Who manufactures the CastScope?

A: The CastScope was designed by Spectrum San Diego, Inc. located in San Diego, CA.

Q: Are you testing this technology in response to a specific threat?

A: No. We are piloting the CastScope for operational feasibility purposes as we do with all technologies under consideration for use at security checkpoints.

Q: Has TSA consulted with any passengers with disabilities or disability-related organizations

during the development or fielding of this technology?

A: Yes. As with all aspects that affect the disability population, TSA continues to work with its Disability Coalition of over 73 disability-related groups and organizations to ensure the CastScope integrates the needs of persons with disabilities. TSA has extended outreach efforts to include: preoperational studies by National Safe Skies Alliance and the Amputee Coalition of America (ACA), an ACA demonstration in Minneapolis, and a pilot demonstration in Reno in coordination with the Veterans of Foreign Wars Conference.

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