

RSNA Statement on TSA Airport Scanners

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The Radiological Society of North America (RSNA) is committed to excellence in patient care through education and research.

- In 2010, the U.S. Transportation Security Administration (TSA) began to use advanced imaging technology (AIT) systems as a primary measure to detect threats to air transportation security. These systems perform whole-body scanning of airline passengers and can detect nonmetallic threats, including explosives, weapons and other concealed objects.
- Until 2013, there were two types of AIT whole-body scanning systems being used at airports:
 - In millimeter wave technology, beams of radiofrequency (RF) energy are projected over the surface of the body at high speed from two antennas as they rotate around the body. This system does not expose the patient to ionizing radiation.
 - Backscatter systems use a narrow x-ray beam that scans the body at high speed from left to right and top to bottom. Backscatter x-rays deliver very low amounts of ionizing radiation. In 2012, due to privacy concerns, the TSA began removing backscatter systems from airports. All of these systems were replaced with millimeter wave scanners by June 2013. The TSA says it may reintroduce backscatter systems in the future once the privacy issue is adequately addressed.
- The RSNA supports the objectives of radiation protection set forth by The National Council on Radiation Protection and Measurement (NCRP) and the International Commission on Radiological Protection:
 1. *justification*, i.e., to justify any activity that involves radiation exposure on the basis that the expected benefits to society exceed the overall societal cost;
 2. *optimization*, i.e., to optimize radiologic protection by ensuring that the likelihood of incurring exposures, the number of people exposed, and the magnitude of their individual doses are all kept as low as reasonably achievable (ALARA), and including restrictions on doses or risks to individuals from a particular source; and
 3. *limitation*, i.e., to limit individual doses to ensure that application of justification and optimization does not result in a total dose to any individual from regulated sources that exceeds the appropriate limits.
- The RSNA supports the NCRP recommendation limiting exposure for individuals undergoing security screening procedures with x-ray scanning devices to 0.25-mSv effective dose (or less) from a single source under one control per year.
- The RSNA believes that regulatory control of AIT systems is essential to ensure passenger safety and supports rigorous personnel training, testing and certification and periodic surveys of systems by qualified medical physicists to ensure operation within specifications.

Through its peer-reviewed journals and education programs, RSNA continually informs radiologists, medical physicists, radiation oncologists and other radiology professionals of the latest technologies and research developments designed to optimize dose and improve patient safety.

The RSNA Scientific Assembly and Annual Meeting, one of the world's largest annual medical meetings, provides a forum for the exhibition of state-of-the-art medical imaging equipment, the presentation of radiologic research findings and the exchange of knowledge in education courses and plenary sessions.