
Assessment of Radiation Dose Reduction Awareness



The observed increase in the number of abstracts regarding radiation dose reduction in the interventional radiology community over the past 10 years has not mirrored the increased volume seen within diagnostic radiology, suggesting that increased education and discussion about this topic may be warranted, according to a review published in the journal *Diagnostic and Interventional Radiology*.

See Also: [National Dose Levels for Common Adult CT Exams](#)

Technical advances coupled with the increased interest in reducing radiation dose from medical procedures have resulted in a steady increase in the number of contributions to the radiological literature pertaining to radiation dose reduction over the past decade. Scientific contributions and educational sessions focusing exclusively on dose reduction have become fixtures at national and international radiology meetings.

Researchers set out to quantify and compare awareness regarding radiation dose reduction within the interventional radiology and diagnostic radiology communities. Abstracts accepted to the annual meetings of the Society of Interventional Radiology (SIR), the Cardiovascular and Interventional Radiological Society of Europe (CIRSE), the Radiological Society of North America (RSNA), and the European Congress of Radiology (ECR) between 2005 and 2015 were analysed using the search terms "interventional/computed tomography" and "radiation dose/radiation dose reduction". A PubMed query using the above-mentioned search terms for the years of 2005–2015 was performed.

Analysis of data revealed that, between 2005 and 2015, a total of 14,520 abstracts (mean, 660 ± 297 abstracts) and 80,614 abstracts (mean, 3664 ± 1025 abstracts) were presented at interventional and diagnostic radiology meetings, respectively. Significantly fewer abstracts related to radiation dose were presented at the interventional radiology meetings compared with the diagnostic radiology meetings (162 abstracts [1% of total] vs. 2706 [3% of total]; $P < 0.001$). On average 15 ± 7 interventional radiology abstracts (range, 6–27) and 246 ± 105 diagnostic radiology abstracts (range, 112–389) pertaining to radiation dose were presented at each meeting.

In addition, the PubMed query revealed an average of 124 ± 39 publications (range, 79–187) and 1205 ± 307 publications (range, 829–1672) related to interventional and diagnostic radiology dose reduction per year, respectively ($P < 0.001$).

"Our results demonstrate increased attention to radiation safety, evidenced by the steady increase in the number of abstracts related to radiation dose presented at interventional and diagnostic radiology meetings and published in the literature," the authors write. "Despite the ever-increasing number of scientific and educational contributions to the radiological and medical literature regarding radiation dose reduction, knowledge about radiation safety among medical residents is still limited regardless of speciality."

One limitation of the study was the use of radiation dose and dose reduction techniques for fluoroscopy and CT as a determinant of awareness. While these modalities have a large contribution to radiation dose, other sources including nuclear medicine studies as well as diagnostic radiography studies are also important contributors to overall radiation dose. "One should refrain from generalising awareness based on the number of articles published about fluoroscopy and CT radiation dose," the authors note.

Source: [Diagnostic and Interventional Radiology](#)

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