"The Big Picture": The Utilization of AI Created Images in the Instruction of Radiology Residents for Teaching NRC Scenarios

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PURPOSE

1) To explore the effectiveness of AI-generated images in simulating Nuclear Regulatory Commission (NRC) scenarios for radiology residents in preparation for radiology core examination.
-2) Assess the impact of AI-generated images on residents' diagnostic skills and decision-making in radiation safety simulated environments.
3) Evaluate the overall satisfaction and engagement of radiology residents with AI-generated educational materials.

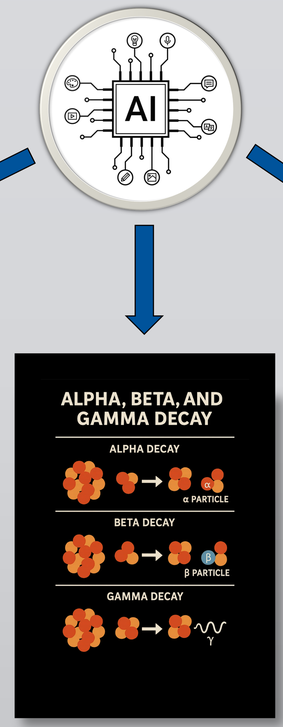
METHODS

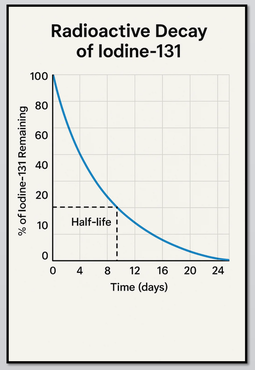
Radiology education requires effective training tools to prepare residents for real-world scenarios, including those regulated by the NRC. This project utilized AI to generate multiple realistic images and prompts of NRC radiation safety scenarios which were used by radiology residents to enhance their educational experience and improve clinical preparedness with a more complete understanding of radiation safety. Discussions were held regarding the necessary steps and responsibilities to take in certain scenarios such as in the events of spillage and inadvertent exposure to radioactive materials.

Submit a prompt related to proper management of radioactive material, types of radioactive decay, proper administration of radiopharmaceuticals, etc…



Radiology resident handling radioactive material





Foster discussion, reflection, and learning from AI-generated NRC scenarios, enhancing resident knowledge of nuclear medicine.

RESULTS

Radiology residents must be well-versed in the principles and practices of radiation safety, particularly those governed by the Nuclear Regulatory Commission (NRC). Traditional training methods often rely on static images, lectures, and question banks, which may not effectively convey the complexities of real-world situations. The use of artificial intelligence to create realistic, context-rich AI images of NRC safety scenarios enhanced the educational experience and preparedness in radiation safety protocols of radiology residents.

CONCLUSION

The use of AI to generate images of NRC scenarios significantly enhances radiology resident education, improving both diagnostic skills and engagement. This innovative approach provides a valuable supplement to traditional teaching methods, allowing for more immersive and realistic training experiences. Future research should focus on the long-term impact of AI-generated content on clinical performance and the potential for expanding this approach to other areas of radiology education.

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- AI circuit board image courtesy of Vecteezy.com