

Peer Review

Review of: "Dose Reduction in Medical Radiography: Advancing Veterinary Diagnostic Solutions"

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This research presents an innovative and technically detailed evaluation of dose optimization strategies in veterinary radiography by comparing linear array detector systems with conventional flat panel detector technology. The study is methodologically strong, integrating phantom-based validation, mechanical system development, and preliminary in vivo veterinary application, which significantly enhances translational relevance. The application of fundamental radiation physics concepts such as the Beer–Lambert Law to explain photon attenuation mechanisms is well articulated, and the demonstrated reduction in entrance skin dose provides meaningful implications for improving radiation safety in veterinary imaging. However, the manuscript could be further strengthened by incorporating quantitative image quality metrics such as signal-to-noise ratio and contrast-to-noise ratio to objectively validate diagnostic equivalence between systems. Additionally, expanding the sample size in live animal studies, providing motion artifact mitigation analysis, and discussing alignment with radiation protection frameworks such as the ALARA Principle would improve the clinical applicability, regulatory relevance, and overall scientific robustness of the study.

Declarations

Potential competing interests: No potential competing interests to declare.