

## **PORTABLE X-RAY RADIATION SAFETY PRACTICES IN POST-ANESTHESIA CARE UNIT NURSES**

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**Introduction:** Many surgeries require post-operative imaging after a procedure. Because of this, post-anesthesia care unit (PACU) nurses are exposed to portable x-ray radiation on a regular basis.

**Identification of the problem:** In PACU nurses with exposure to radiation, does education on radiation safety versus MedStar Georgetown University Hospital (MGUH) current practice increase nurses' confidence in safe radiation practices as determined by a self-reporting survey?

**EP Question/Purpose:** According to a survey sent to PACU nurses at MGUH, there is a lack of knowledge on safe radiation practices and protocols. Education is critical in nurses working safely and professionally in their role.

**Methods/Evidence:** The MGUH radiation safety office provided the required hospital-wide computer training module on radiation and the radiation safety training policy. A survey was sent to 55 PACU RN's with 26 responses. Research articles were analyzed by comparing findings to current practice as well as looking at the level of evidence and strength for each article. Eight articles were chosen from 16 articles that were found using CINAHL, MedLine, and PubMed databases. Those eight articles had levels of evidence ranging from I to VII and strengths from very low to high. Key words used for the literature review were portable x-ray, radiation, safety, nursing, perioperative nursing, exposure, and ionizing radiation.

**Significance of Findings/Outcomes:** According to a study, standing two meters (approximately 6.5 feet) away from the central exposure is a safe distance according to the principal of keeping radiation exposure as low as reasonably achievable (Chianga et al, 2015). MGUH policy dictates a 6 feet safe distance from the exposure source, so there is no evidence necessitating a change in policy. However, results from the survey show there is sufficient evidence for the need of easily accessible educational resources on radiation safety. Limitations include a lack of data regarding amount of radiation exposure in PACU staff, small sample size for the survey, and an embedded fear of cancer risk.

**Implications for perianesthesia nurses and future research:** Next steps consist of adding specific portable x-ray radiation safety information to the required PACU specific class as well as the required hospital-wide computer training module. A follow-up survey to evaluate PACU nurses' improved understanding on radiation safety would show potential increased knowledge.