Radiation Safety Among Female Orthopaedic Surgeons

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INTRODUCTION: As the number of females entering the field of orthopaedic surgery increases, more attention will be paid to the safety aspects of radiation, including those surrounding pregnancy and female-specific cancers. The purpose of this study was to survey a diverse cross-section of U.S. female orthopedic surgeons evaluating their education and attitudes on radiation safety as well as adherence to safety recommendations.

METHODS: An online survey was distributed via the Ruth Jackson Orthopaedic Society (RJOS), The Women in Orthopaedics Facebook group, and the Forum. The first component of the survey included demographic information. The second component assessed radiation safety knowledge. The third component was designed to capture personal experiences among respondents. Respondents indicated how frequently they were exposed to radiation, their satisfaction with radiation safety training, their radiation safety practices, and their level of concern regarding exposure risk. Data were collected using REDCap.

RESULTS: Sixty-six female orthopaedic surgeons from 21 states completed the survey. Most respondents were between 30-49 years old (77.3%), and most (62.1%) had been practicing for 0-9 years. Regular dosimeter usage was reported by 24.2% of respondents, and 36.4% of respondents reported always having radiation protective equipment provided that correctly fit them. Less than half (48.5%) of respondents had lectures in their training devoted to radiation safety, and 48.5% felt they had adequate knowledge of radiation safety. Regarding their radiation safety training, 60.6% of respondents rated their training as unsatisfactory or extremely unsatisfactory, and 90.9% of respondents stated that they think training efforts for radiation safety can improve.

DISCUSSION AND CONCLUSION: Advancements are needed in radiation safety training, particularly regarding practices related to health and pregnancy risk. Assessment of radiation safety knowledge and personal adherence to guidelines can promote improvements in safety measures and increase confidence of female orthopaedic surgeons in their safety and knowledge of radiation exposure.