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Radiation Exposure Levels in Vascular Access Interventions by Interventional Nephrologists

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Objectives: As an interventional nephrologist, preventing exposure to radiation is important for the safety and well-being of both patients and healthcare workers. Interventional nephrology procedures often involve the use of imaging equipment that emits ionizing radiation, such as X-rays and fluoroscopy, which can have serious health consequences, including an increased risk of cancer and other diseases. To minimize the risk of exposure to radiation, interventional nephrologists should follow established guidelines and protocols for safe imaging and procedures, use protective equipment, and stay up-to-date on the latest technology and techniques for reducing radiation exposure. By taking these steps, interventional nephrologists can help to ensure the safety and well-being of both patients and healthcare workers, and maintain public trust in the medical profession and the safety of medical procedures.

Methods: The dose-area-product and fluoroscopy time of vascular access interventions performed by an interventional nephrologist from November 2022 to January 2023 were measured and compared to the reference level published by the Korea Centers for Disease Control and Prevention(KCDC) and the Korean Society of Interventional Radiology(KSIR) in 2020.

Results: According to the reference level published in 2020 by the KCDC and the KSIR, the mean reference fluoroscopy time for AVF was 632 seconds and the mean dose-area product (DAP) was 13.4 Gy·cm^2. In a study of 149 cases performed by an interventional nephrologist over a period of 3 months, the fluoroscopy time was found to be 332 seconds and the DAP value was 6.98 Gy·cm^2. These procedures were safely and effectively carried out, and all 149 cases achieved clinical success.

Conclusions: In conclusion, the treatment of vascular access by a trained interventional nephrologist is both safe and effective.