Accepted Manuscript

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PII: S0090-4295(17)31328-6
DOI: https://doi.org/10.1016/j.urology.2017.12.011
Reference: URL 20817

To appear in: *Urology*

Received date: 11-10-2017
Accepted date: 12-12-2017

Please cite this article as: Andrew M. Harris, Radiation Exposure to the Urologist Using an Over-Couch Radiation Source Compared to an Under-Couch Radiation Source in Contemporary Urology Practice, *Urology* (2018), https://doi.org/10.1016/j.urology.2017.12.011.

Radiation Exposure to the Urologist Using an Over-Couch Radiation Source Compared to an Under-Couch Radiation Source in Contemporary Urology Practice

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Abstract: 236
Manuscript:1751

Key Words: Radiation, Fluoroscopy, Endourology, Nephrolithiasis

Abstract

Objective: To compare radiation dosage to the Urologist using an over-couch system, X-ray tube over table, and an under-couch system, X-ray tube under table. Urologist continue to perform more endoscopic surgery requiring fluoroscopy. Fluoroscopy, or electromagnetic radiation, can cause cellular damage when passing through tissue. These systems are compared with respect to radiation dosage to the urologist.

Methods: A single urologic surgeon utilized a dosimeter badge while using an over-couch system. The dosimeter exposure was higher than expected and an under-couch system was then employed. Dosimeter exposure levels between the over-couch and under-couch systems were examined and compared.

Results: Over the 4 months reviewed for the over-couch system, radiation doses to the body averaged 3.63 mSv, to the eye averaged 3.73 mSv, to the extremities averaged 3.72 mSv. The 3 month averages for the under-couch system exposure to the body, eye, and extremities were 0.31 mSv, 0.35 mSv, and 0.35 mSv respectively. The difference in radiation exposure between