

Contamination of ionization chambers by talcum powder

William F. Hanson, Donald J. Arnold, and Robert J. Shalek

Accredited Dosimetry Calibration Laboratory, The University of Texas M. D., Anderson Cancer Center, Houston, Texas 77030

Leroy J. Humphries

Harrington Cancer Center, Amarillo, Texas 79159

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This is a word of caution to anyone using ionization chambers protected by thin rubber sheaths in water. Four Farmer-type ionization chambers contaminated with talcum powder were received for calibration by the Accredited Dosimetry Calibration Laboratory at the University of Texas M. D. Anderson Cancer Center. The chambers show a marked energy dependence (5% to 20%) to soft orthovoltage x rays. The response of the contaminated chambers is compared with the chambers' response before contamination and after cleaning. Techniques for identifying contaminated chambers and suggestions for cleaning them are presented.

INDEXING TERMS: IONIZATION CHAMBERS, DOSEMETERS, CONTAMINATION, CALIBRATION, SENSITIVITY, X-RAY DOSIMETRY