Contamination of ionization chambers by talcum powder

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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.

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