FLUOROSCOPY FOR SHOE-FITTING

Synopsis:

Fluoroscopy was a common practice during the 1940s and 1950s in many shoe stores and department stores (particularly those specializing in children's shoes) for measuring foot size and supplementing other usual methods of shoe-fitting. So-called "x-ray shoe fitters" were considered to be a modern and harmless application of x-ray technology. These devices consisted of an x-ray tube housed in a case lined with lead or steel and containing a fluorescent screen. The unit was equipped with an opening for the customer's feet and three viewing openings through which the customer, clerk, and one other person could observe the screen. A push-button automatic timer, which could be set for any predetermined time, was included on most installations. In actual use, exposure times were found to vary from 5 to 45 seconds, although 25 seconds appeared to be the most popular setting. Repeated exposures could be made by releasing and pushing the button. Later models were equipped with three separate switches providing three different intensities -- one for men, one for women, and one for children.

Excessive use of fluoroscopy devices, however, was found, in some cases, to cause skin burns and abnormal foot growth in children. A series of studies were begun in 1949 to determine radiation exposures received by customers, clerks, and other persons from the x-ray shoe-fitting units. Radiation doses to feet, leakage through the walls of the cabinet, and scattering from the opening in which the customer placed his feet were measured. Recommendations were made to add more lead shielding, to educate store employees about the potential harmful effects of radiation, and to minimize use of fluoroscopy devices and viewing times to minimize the potential for radiation injury to customers and employees.

The use of the shoe-fitting fluoroscopes was mostly discontinued by about 1960, because it was recognized that such devices were not actually needed to properly fit people with shoes, and that the potential risks of radiation exposure exceeded the benefits.

References:

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