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TÍTULO **DEVELOPMENT OF A SOFTWARE FOR ROUTINE TESTING IN MEDICAL IMAGING DEPARTMENTS**

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Resumo: Introduction Evaluation and routine testing methods applied to medical imaging departments have been defined by International Electrotechnical Commission. Technical details and acceptance criteria were published in IEC 1223 standard series. This series is composed by texts regarding general aspects of quality assurance in diagnostic imaging departments as well as for specific references about constancy and acceptance tests to image devices and X-ray equipments. Moreover, SS-625 State regulation imposes specific radiation and equipment performance measurements adopted in order to assure patient and operator safety conditions. This work shows the development of a software package which provides an easy implementation of both IEC and State standards. This software includes the use of automatic computer reading from a commercial radiation measurement system and an analytical method of radiation measurement analysis. System's performance evaluation results will be presented.

Materials and Methods A set of procedures including the prescriptions of both IEC 1223 series and SS-625 standards was implemented in a user friendly computer software. A Microsoft Visual Basic 4.0 platform was chosen to develop the Windows 95 based package. Availability of automatic radiation measurement from Radcal ion chambers was provided by linking the device to a RS-232 port of a personal computer or lap-top equipment. Analytical evaluation of performance parameters as X-ray beam half value layers, kVp and exposure time reproducibility, X-ray beam alignment, film processors sensitometry etc. were adopted into the program routine. The software also provides capabilities of linking other non-invasive instruments which have some communication output.

Results This software makes an analytical and statistical evaluation of an X-ray beam

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