

ABSTRACT

Collimation testing or light field and radiation field suitability testing is a quality control method for X-Ray beam conformity testing to ensure the accuracy of the collimator beam and the X-Ray beam (Bapeten No. 9 of 2011). X-Ray beam mismatches must not exceed 2% of the Focus Film Distance (FFD). Collimation test for the General Radiography modality at the radiology Installation of Bhayangkara Semarang Hospital are conducted monthly and during the replacement of the collimator lamp in April 2026.

In this study data collection use of quantitative method by directly measuring and collecting data, as well as analyzing the obtained data. Collimation test, were conducted with FFD of 100 cm and 150 cm with beam sizes of 18x24 cm on the horizontal axes X1, X2 and vertical axes Y1, Y2 and counting the mismatched beams.

For the 100 cm FFD a result for the horizontal axis (X1+X2) were 0,46% and the vertical axis (Y1+Y2) were 1,74%. For the 150 cm FFD the horizontal axis (X1+X2) a result of 0,33% and the vertical axis (Y1+Y2) a result of 0,91%. From this calculation it can be concluded that the beam for the 100 cm and 150 cm FFD are $\leq 2\%$ or still within the tolerance limit.

Keywords : Collimation Test, Focus Film Distance (FFD), Quality Control