

Establishment of regional diagnostic reference levels for digital mammography in Western Province of Sri Lanka

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Published 26 February 2021 • © 2021 Society for Radiological Protection.

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[Journal of Radiological Protection](#), [Volume 41](#), [Number 1](#)

Citation H S Niroshani *et al* 2021 *J. Radiol. Prot.* **41** 79

Abstract

The radiation dose to the breasts should be kept to a minimum as breast tissues are highly sensitive to radiation. In mammography, the mean glandular dose (MGD) is used to specify the patient dose. In this study, data on the MGD during diagnostic mammographic examinations was collected using the database from six digital mammography facilities available in the Western Province in Sri Lanka. Examinations involving breast pathology, breast implants, or compressed breast thicknesses (CBT) outside the range of 20–110 mm were excluded in this study. The mean MGD per breast was 3.50 mGy, with a mean CBT of 57 mm. The mean MGD per facility varies from 1.58 to 2.27 mGy, with overall 75th and 95th percentiles of 2.15 and 2.82 mGy, respectively. The 75th and 95th percentile MGD per image, for the average CBT of 57 ± 12 mm, were 2.00 and 2.65 mGy respectively. The 75th percentile value of the MGD is suggested for the Western Province and it depends on the specific CBT.