

Novel Breast Density Technology Demonstrated at ECR 2015

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A study using a new, automated, area-based percent breast density measurement algorithm to assess mammographic breast density, using "for demonstration" full-field digital mammography (FFDM) images, was presented at the 2015 European Congress of Radiology (ECR) in Vienna (Austria). The new breast density measures could be used by researchers for the development of personalized breast screening protocols.

The study used face-validity to assess 1,823 images, and compared the algorithm to visual assessments by radiologists specializing in mammography. The radiologists assessed density using the FFDM images, and validated them as 5% increments using the Intra-class Correlation Coefficient (ICC), and the BI-RADS 4-level classifications using the Kappa Statistic. ICCs and Bland Altman plots were used to evaluate internal reliability and agreement between CC and MLO views on 2,372 for presentation FFDM images, and density measurements from left and right mammography views using the new algorithm.

The results demonstrated that the Densitas (Halifax, Nova Scotia, Canada) Research Edition algorithm showed almost perfect internal reliability between left and right views, and between Cranio-Caudal (CC) and Medio-Lateral Oblique (MLO) views of the same breast, and excellent agreement with radiologists' visual assessments. The Bland-Altman plots showed narrow upper and lower limits of agreement between CC and MLO views, and negligible bias.

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