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Radiation Dose of Digital Breast Tomosynthesis

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malignant lesions might be masked by the presence of overlapped glandular tissue, producing false negatives; on the other side, the superimposition of normal tissues might determine false positives. The lowering of sensitivity and specificity in conventional mammography caused by tissue superimposition is often called "anatomical" or "structure" noise, i.e., something which is an obstacle for radiologists to correctly interpret image contents (Niklason et al. 1997; Burgess et al. 2001). The adverse effects of the anatomical noise can be reduced by introducing tomographic imaging methods, like tomosynthesis.

DBT is a quasi-3D imaging technique, which reconstructs tomographic images of the breast from a series of low-dose projection images acquired by a digital detector while the X-ray tube rotates within a limited arc (Park et al. 2007). This can be relatively easily obtained from a standard digital mammography platform where the gantry is allowed to move around an axis located above the breast support, while the digital detector remains stationary during the acquisition of the low-dose projection. Breast positioning in tomosynthesis is the same as used for conventional digital

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