

The goal of improvement in mammography is to produce images that provide maximum visualization of breast anatomy and signs of disease without subjecting the patient to unnecessary radiation."

Optimization is needed when typical patient doses exceed the corresponding established DRLs or doses associated with significant variations that cannot be explained among hospitals or individual patients. In X-ray mammography, AGD depends on several factors: (1) parameters that affect the incident air kerma (e.g., exposure factors, beam quality, and focus-to-skin distance) (2) mammography-related parameters (e.g., breast thickness and breast graduality). The correlation between MGD and CBT demonstrates the importance of using AEC in all mammography procedures. Dose variations provide clear evidence that radiation dose optimization is possible without increasing the quality of diagnostic information. A high MGD was associated with high exposure and average breast thickness. Almost seven of the eight mammography devices used 28 kV or higher for their examination.