

Key Result Areas (KRA) In Mammography

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Breast cancer is the commonest cause of cancer death in women worldwide. Early detection of breast cancer depends on high quality breast imaging technology. Mammography remains the gold standard in breast imaging and offers an effective means to detect breast cancer early.

Key Result Areas (KRA) in mammography enables radiographers to have clearly defined and achievable goals in producing high quality mammograms. This topic will cover two factors that are still radiographer dependent and shall affect image quality, which are positioning and compression.

The aim of mammography is to obtain an optimum image along with maximum breast tissue visualisation. However, there are a number of factors that affect the clinical image quality of a mammogram, namely positioning of the breast, compression, optimum exposure, sharpness, noise, and contrast. With the advent of the digital mammography system, the hardware and software has remarkably improved the management of factors affecting image quality such as exposure, sharpness, noise, and contrast.

Breast positioning is a key factor affecting the resultant mammographic image. During mammography, improper positioning shall lead to various artefacts and breast pathology being missed, thus leading to an inconclusive procedure. Optimal positioning maximises the amount of breast tissue seen on image.

In addition to positioning, the benefits of applying optimal compression during the procedure are:

- reduction of internal X-ray beam scatter
- improved contrast
- reduce geometric / movement un-sharpness
- reduce radiation dose to breast
- more homogeneous film density
- spreading of breast tissues, thus reducing superimposition and clearer demonstration of lesions

During mammography, due to the different body habitus of each patient, the examination has to be tailored as per specific needs of the individual patient. The radiographer plays an important role in the assessment and adjustments made to positioning for maximum tissue visualisation.

Compromising with borderline mistakes in positioning and inadequate compression increases the likelihood of missing breast cancer and reduces sensitivity of mammography. Therefore, this topic, Key Results Area in mammography will cover common faults in mammography that needs to be eliminated, thus enabling Radiographers to produce high quality mammograms.