

DIGITAL MAMMOGRAPHY SCREENING – FIRST EXPERIENCES OF LUXEMBOURG

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Today a large number of European countries run mammography-screening programs because early detection and treatment of breast cancer has been proven to reduce mortality. The majority of these screening programs is based on analogue X-rays technology and has optimised their organization of transporting, archiving and reading to films. The last decade is marked by enormous developments in the technology of digital mammography so that different technologies such as flat panel-, computed radiography- and scanning systems - became available. In several mammography-screening trials digital mammography systems were compared with analogue ones. The difference in cancer detection rates was not significant. Physical measurements have shown that digital mammography performs better in visualisation of very low contrast details and at least equally well for high contrast details. The DIMST study has also proved that digital mammography is a benefit for younger women with dense breasts and at least equal to conventional systems regarding other age groups. Therefore, digital mammography is expected to have a major impact on quality and organisation of breast cancer screening. Screening programs are faced now with a huge challenge of incorporating the digital technology; implementation of electronic image exchange, conception of new electronic workflow and training of radiologists and technical personal.

In order to find adequate solutions the national screening program in Luxembourg started in 2001 to integrate a screening information system (SIS), allowing the management of the whole screening activities from appointment planning to epidemiological evaluation. The existing HealthNet Luxembourg® structure permitted the exchange of digital images between the screening units and the coordination centre to establish double reading from distance. In addition software solutions (such as OptImage and MoniQa) are introduced to guarantee the high quality standards demanded by the European Guidelines as well as to simplify the realisation of the technical quality controls. Until now, adequate teaching and training programs for radiologists, radiographers and medical physicists are still required since it is quite evident that mammography screening in a digital environment needs a new approach.

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