

AbstractID: 7447 Title: Implementation of PACS QA Using AAPM TG-18 In A Clinical Health Care Center

Purpose:

In the last a few years PACS has been increasingly available and used in clinical care centers. However, there was no standardized quality control for PACS display units, which is the crucial last step in an imaging chain for all diagnostic imaging modalities. In 2005 the final draft of AAPM TG-18 report was released. The purpose of this work was to implement QA for PACS display utilizing AAPM TG18 report in a tertiary care center.

Method and Materials:

There are total 66 diagnostic and clinical PACS display monitors located in various areas of the main hospital and 2 satellite clinics. QA procedures were developed using the 2005 final version of AAPM TG-18 report. VeriLUM (IMAGE Smiths, Inc.) software was installed on all display monitors and a VeriLUM luminance/illuminance spot meter was used for all measurements. Various AAPM TG-18 report test patterns were used for these evaluations.

Results:

Quarterly QA including geometric distortion, reflection, luminance response, luminance dependencies, and resolution was performed by a PACS technologist /coordinator. Annual QA including geometric distortion, reflection, luminance response, luminance dependencies, resolution, noise, and veiling glare was performed by a medical physicist. PACS display quality related issues were quantitatively determined using the QA procedures developed from AAPM TG-18 report.

Conclusion:

QA for PACS display has been successfully implemented for a year and half in a clinical health care center using AAPM TG-18 report. It is going to be used for the enterprise wide PACS in the health care system in the near future.