Digital Mammography:
GE Senographe Pristina 3D

RADIOLOGICAL SERVICE TRAINING INSTITUTE

Introduction

The GE Senographe Pristina 3D training course will provide engineers with the necessary knowledge to maintain the Pristina 2D or 3D Tomosynthesis systems. This course is designed to give the service professional the insight to evaluate image quality problems, determine if the mammographic unit is the source of the image problem and take the appropriate steps for corrective action. Given today's regulatory environment maintaining the system at peak performance is of the utmost importance.

At the completion of this course students will be able to perform all GE Pristina system maintenance procedures including:

- System installation
- Calibration (including Tomo)
- Gantry maintenance
- AWS (Acquisition Workstation) maintenance
- Imaging chain maintenance
- Tube Install
- Detector Install
- Preventive maintenance
- Troubleshooting

Prerequisites

To attend this course, the service professional must have attended Phase I and possess fundamental knowledge and understanding of the principles of X-ray and basic electronics.

Objectives

- Identify the major components of the Pristina system
- Describe the functional characteristics of each sub-system of the Pristina system
- Describe the factors affecting digital MG image quality
- Describe how those factors are optimized to produce the highest quality digital mammographic images
- Complete all operator, administration, and application tasks
- Perform the necessary tests to reproduce the results of the physicist's report to confirm correct functionality
- Fully install the Pristina system and related components
- Describe the function of the basic components
- Perform all system calibrations and adjustments to maintain the highest quality images and compliance with MQSA
- Perform detector related maintenance procedures to maintain detector image quality over time
- Demonstrate competence to be able to handle AWS maintenance, backup, restore, and calibrations
- Perform complete Preventive Maintenance procedures as performed by the OEM
- Evaluate circuit functions to facilitate troubleshooting

Course Outline

Day 1

- Course introduction
- Pristina system overview
- Digital Mammography
  - View Types
  - Target/Filter Combo
  - Paddles
  - Detector
- System Documentation
- Introduction to Scanning
  - Weekly QC Checks
  - Creating a patient
  - Scanning Practice
- System logins
- Mammographic regulatory overview
- Lab Activities
  - Create a patient
  - Weekly QC
  - System power-down

Day 2

- System power
  - AWS
  - Gantry
  - Detector
  - Turn-on circuits
- System communications
- AWS acquisition software
- Operator's console
- User interface/application
  - Image acquisition
  - Image viewer
- Lab Activities
  - Remove and replace covers and system panels

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Hands-On Training Course
Course Length: 1 Week
CEU's Awarded: 8 CEU's
State of Ohio Registration No. 93-09-1377T

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- Component identification
  - AWS
  - Gantry
  - Detector
- Component location
  - Schematic location
  - Physical location
  - Connector locations
  - Fuse location/identification

Day 3

- System service
- Required tools and test equipment
- Device/output configuration
- System calibration
  - Generator Cals
  - Tube Cals
  - Positioner Cals
  - Detector Cals
  - AOP (AEC) calibration
- Image and detector maintenance
- Lab Activities
  - Calibrations

Day 4

- Backups
  - AWS
  - User preferences
  - Gantry/tubehead calibration data
- Restore system components from backup
- Operating system installation procedure
- AWS application installation procedure
- Preventive maintenance
- Troubleshooting
  - Error codes
  - System diagnostics
- Lab Activities
  - Preventive maintenance Procedure
  - PM Worksheet
  - Backup AWS
  - Backup user preferences
  - Backup gantry/tubehead calibration data
  - Complete restore from backup
  - Clean OS install
  - Application install
  - System restore from previous backup

Day 5

- Troubleshooting (Cont'd)
  - Error codes
  - System diagnostics
- Course review
- Course evaluation
- Final exam

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