

Bone Densitometry:

GE iDXA & Hologic Horizon Systems



RADIOLOGICAL SERVICE TRAINING INSTITUTE

Introduction

Bone Densitometry is becoming an increasingly utilized imaging modality due to treatment requirements of osteoporosis and osteoarthritis. The trained service professional will be taught the skills necessary for mechanical and electronic maintenance of each Bone Densitometry unit. Each sub-system of the mechanical unit, x-ray production, and detector is thoroughly analyzed.

Prerequisites

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

Objectives

- Describe the basic components of central Bone Densitometry units.
- Understand the phantoms and test equipment required to service each unit.
- Perform the necessary performance monitoring and quality assurance procedures utilizing each unit.
- Perform all system calibrations and adjustments to maintain the highest quality reports/results in monitoring patient Bone Mineral Density.
- Evaluate circuit functions to facilitate troubleshooting.

Course Outline

Day 1

- Bone densitometry theory overview
- DEXA – dual energy x-ray absorption
- Lunar prodigy version history/distinctions
- GE operational & service
- Hologic version history/distinctions
- Hologic Horizon system overview documentation
- Bone densitometry terminology
- GE iDXA system specifications
- Bone densitometry scanning technologies
 - o Fan beam
 - o Narrow fan beam
 - o Pencil beam
- GE iDXA detector technologies
- Hologic detector technology

Day 2

- GE Required tools & test equipment
- GE System operations
- GE Component identification
 - o Replace detector
 - o Replace collimator
 - o Replace x-ray tube
- GE System/board overview
- GE Service software
- GE Service procedures

Day 3

- GE Quality assurance procedures
- GE System calibration
- GE System diagnostics

- Hologic Managing patient database/records
- Hologic required tools & test equipment
- Hologic System operations

Day 4

- Hologic Quality control procedures
- Hologic Patient examination
- Hologic Reports
- Hologic Archive & restore
- Hologic Configure the system
- Hologic Utilities
- Hologic System service
- Hologic Calibration
- Hologic Test points and system LED's

Day 5

- Hologic preventive maintenance
- GE preventive maintenance
- Hologic troubleshooting
- GE troubleshooting
- Backups (GE/Hologic)
- Review
- Final Exam