



CALIFORNIA CORRECTIONAL HEALTH CARE SERVICES

VOLUME 4: MEDICAL SERVICES	Effective Date: 6/1/12
CHAPTER 30: MEDICAL IMAGING	Revision Date(s):
4.30.4 RADIOLOGY QUALITY ASSURANCE AND QUALITY CONTROL	Attachments: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

I. PROCEDURE OVERVIEW

The California Correctional Health Care Services (CCHCS) Medical Imaging Services (MIS) shall utilize a multidisciplinary approach to maintain and improve the quality of MIS and outcomes.

II. PURPOSE

To ensure that all X-ray equipment components are operating properly and the quality of images radiologic examinations are adequate for clinical needs.

III. RESPONSIBILITIES

The Chief Executive Officer is responsible for the implementation of this policy at the local level. Local Operating Procedures regarding quality assurance and quality control are to be reviewed by the Radiology Supervisor and Operator.

IV. PROCEDURE

A. Testing Equipment and Supplies

1. On a quarterly basis, satisfactory operation of all X-ray equipment shall be checked by examining the following:
 - a. Equipment condition.
 - 1) Each of the items listed in the quality control visual checklist below should be inspected by a technologist on a quarterly basis or after service or maintenance on the X-ray unit. Items not passing the visual check should be replaced or corrected as soon as possible.
 - a) Mechanical Integrity
 - i. Check for loose or absent screws, bolts, or other loose elements.
 - ii. Functioning of meters, dial, and other indicators.
 - iii. Collimator light brightness and cleanliness.
 - iv. Operation lights on control panel are sufficiently lit (illuminated) to function in a darkened examination room.
 - v. Collimator beam limiting devices functioning correctly and verification of proper alignment to bucky devices.
 - b) Mechanical Stability
 - i. Locks and detents operable.
 - ii. Over-head X-ray tube boom smoothness of motion

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- iii. Table bucky devices and wall unit cassette holder are stable and move smoothly.
 - iv. If X-ray table has angulations functions, check the smoothness and accuracy of the angulations scale.
 - v. Condition of cables termination rings are fastened, no insulation breaks, and they hang properly as to not interfere with the operations of the unit.
- 2) Inspection of the condition of computed radiography (CR) cassettes and imaging devices.
 - 3) Lead aprons and gloves are to be checked annually with fluoroscopy to ensure no cracks or damage.
 - 4) Medical physicist shall perform an annual testing of all required radiographic equipment.
- b. Equipment compliance with state regulatory provisions as required under Title 17 of the California Code of Regulations §§ 30305 and 30307.
2. Technique charts shall be made available for each room in order to maintain consistent exposure factors and film quality.
 3. The above information shall be recorded and kept in the MIS department.

B. Repeat Analysis

1. The criteria associated with repeating an exposure is subjective. Each institution should strive for a repeat rate no greater than five (5) to seven (7) percent.
 - a. Determine the total number of repeated exposures and the total number of exposures. The overall repeat rate is the total of repeated exposures divided by the total number of exposures during the test period.
 - b. Repeat analysis should be performed quarterly and requires an ongoing tracking of number of exposures.
 - c. Review shall include each technologist, modality and exam procedure performed.
2. The percentage of repeat exposures shall provide the institution with information that focuses attention on the proper corrective action needed to reduce that percentage.
3. In-service training shall be conducted covering imaging procedures with repeat rates greater than five (5) to seven (7) percent. This shall include but not be limited to positioning, patient problems, techniques, and other causes for repeat images.

C. Film Storage

1. X-ray film should be stored according to manufacturer specifications.
2. Inventory should be maintained and rotated on a first in, first out basis.

D. Artifact Evaluation and Prevention

1. All CR cassettes are to be identified with a number placed on the back of each cassette for inventory and quality assurance tracking.
2. Identify and correct artifacts that may obscure clinical findings on radiographs.
3. CR cassettes and imaging plates shall be erased weekly and cleaned monthly according to manufacturer specifications.

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- a. Documentation of when cassettes and imaging plates are erased and cleaned must be maintained to ensure compliance with Title 17 of the California Code of Regulations §§ 30305 and 30307.

V. REFERENCE

- California Code of Regulations, Title 17 §§ 30305 and 30307.
- American College of Radiology (ACR), <http://www.acr.org/guidelines>
- ACR Position Statement on Quality Control and Improvement, Safety, Infection Control, and Patient Education,
http://www.acr.org/SecondaryMainMenuCategories/quality_safety/guidelines/position_statement.aspx