Radiology Technologist Exam Content Outline

Exam Objective: To measure the overall level of clinical knowledge of the Radiology Technologist

### Knowledge Domains

<table>
<thead>
<tr>
<th>Domain</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Equipment Operation &amp; Quality Control</td>
<td>14%</td>
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<tr>
<td>Imaging Principles &amp; Evaluation</td>
<td>12%</td>
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<tr>
<td>Imaging Procedures</td>
<td>20%</td>
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<tr>
<td>Patient Care &amp; Education</td>
<td>31%</td>
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<tr>
<td>Professional Practice</td>
<td>14%</td>
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<tr>
<td>Radiation Awareness</td>
<td>10%</td>
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</tbody>
</table>
I. Equipment Operation & Quality Control
A. Knowledge of proper equipment selection:
   1. Plate size
B. Knowledge of and ability to make adjustments to instrumentation:
   1. Calibrating density
   2. Troubleshooting grid errors
   3. Beam restriction
   4. kVp
C. Knowledge of accessories commonly found and used with imaging equipment:
   1. Pig-O-stat
   2. Step wedge
   3. Image receptors
   4. Grid holders
   5. Stationary grids
D. Knowledge of proper maintenance of equipment:
   1. Start up
   2. Charging
   3. Contamination
   4. Cleaning
   5. Troubleshooting errors/breakdowns

II. Imaging Principles & Evaluation
A. Knowledge of basic anatomy identification.
B. Knowledge of positioning terminology.
C. Knowledge of patient information for radiograph identification and documentation.
D. Knowledge of principles of scout films.

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E. Knowledge of criteria and definitions for image evaluation and quality:
   1. Density
   2. Contrast/Gray scale
   3. Image settings for most detail
   4. kVp
   5. mAs

III. Imaging Procedures
   A. Knowledge of positioning and planes used in radiography exams:
      1. Sagittal
      2. Midsagittal
      3. Coronal
      4. Frontal
      5. Transverse
      6. Lateral
      7. Supine
      8. Prone
   B. Knowledge of principles to manipulate patient position(s) in order to better evaluate anatomic structures.
   C. Knowledge of principles of contrast dye administration and adverse reactions.
   D. Knowledge of and ability to identify types of fractures.
   E. Knowledge of principles and prioritization of common procedures:
      1. Barium enema
      2. Myelogram
      3. IVP
      4. Lumbar spine
      5. ERCP (Endoscopic Retrograde Cholangiopancreatography)
F. Knowledge of principles that affect image quality:
   1. Distance
   2. Anatomical markers
   3. Projection

G. Knowledge of and ability to identify anatomical features; abnormalities; function and perfusion of structures found in the body:
   1. Liver
   2. Kidneys
   3. Urinary system
   4. Biliary system
   5. Digestive system
   6. Cardiovascular system
   7. Skeletal system

IV. Patient Care & Education
   A. Knowledge of proper body mechanics for safe patient handling:
      1. Patient positioning
      2. Transport
      3. Transfer
   
   B. Knowledge of patient preparation for procedures and exams:
      1. NPO status (definition and prioritization)
      2. Blood pressure parameters
      3. Required lab results
         1. BUN
         2. GFR
         3. Pregnancy test
   
   C. Knowledge of principles of patient education related to procedures and adverse reactions/outcomes.
D. Knowledge of principles and management related to emergency situations:
   1. Patient safety
   2. Code protocols – respiratory and cardiac
   3. Trauma patient considerations
   4. Patient falls

E. Knowledge of infection control practices:
   1. Hand hygiene
   2. Isolation/Transmission-based precautions
      1. Droplet
      2. Airborne
   3. PPE (gloves, gowns, and different types of masks)
   4. Tuberculosis

V. Professional Practice
A. Knowledge of scope of practice and reporting any incident outside the code of ethics.
B. Knowledge of ethical and legal aspects related to patient restraints.
C. Knowledge of licensing requirements:
   1. State boards requirements
   2. Continuing qualification requirements
   3. CPR/BLS
D. Knowledge of ethical and legal aspects of patient care:
   1. Informed consent
   2. HIPAA
   3. Privacy
   4. Medical records release principles
   5. Patient rights

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VI. Radiation Awareness

A. Knowledge of ALARA principles as basic method of radiation protection and minimizing exposure.

B. Knowledge of anatomy most and least affected by radiation.

C. Knowledge of principles to conduct procedures and exams for pediatric patient.

D. Knowledge of principles to maintain radiation safety:
   1. Radiation Safety Officer
   2. Hazardous chemicals exposure
   3. Radiation leak

E. Knowledge of principles that increase patient skin dose exposure limits.

F. Knowledge of exposure limits for the radiology technologist.

G. Knowledge of principles of shielding:
   1. Rationale
   2. Types of
   3. Proper placement