

**CT Accreditation Crosswalk**

Color code: **Blue** from Michigan CT rules

Color code: **Red** from ACR Accreditation Standards

Color code: **Brown** from California Law SB 1237, HSC 115111, 115112, 1156113

Color code: **Green** from IAC Accreditation Standards

Color code: **Black** from CRCPD Suggested State Regulations, Part F11, 2009,

Color code: **Purple** from CRCPD Board of Directors' Position Paper 2009

Font code: ***Bold black italics***, I made it up

Draft Rules by Section Number	Draft Rule Language	ACR Accreditation Standards	IAC Accreditation Standards	Joint Commission Accreditation Standards	RadSite Accreditation Standards
<b>Cost of Accreditation</b>		\$3,000 for first scanner \$2,900 for each additional scanner (all four modules)	\$2,600 for first scanner \$1,500 for each additional scanner	Variable fee structure. Based on annual patient visits and number of sites. 75,000 patients and one site = \$15,945	
<b>WAC 246-226-001 Authority</b>	Rules set forth herein are adopted pursuant to the provisions of chapter 70.98 RCW and 70.56 RCW.				
<b>WAC 246-226-005 Purpose and Scope</b>	(1) This chapter establishes requirements governing the use of gantry-style computed tomography (CT) scanners in the healing arts. (2) This chapter applies to all registrants who use a CT scanner for the intentional exposure of humans for diagnostic imaging.	N/A	N/A	N/A	N/A
<b>WAC 246-226-007 Relationship to other regulations</b>	<b><i>In addition to the requirements established in this chapter, registrants shall also comply with:</i></b> <b><i>(a) Applicable requirements established in chapter 246-225 WAC, Radiation protection – X rays in the healing arts; and</i></b> <b><i>(b) Applicable fees established in chapter 246-254 WAC, Radiation protection – Fees.</i></b>	N/A	N/A	N/A	N/A
<b>WAC 246-226-020 Requirements for Equipment</b>	(1)Termination of exposure. (a)Means shall be provided to terminate the x-ray exposure automatically by either de-energizing the x-ray source or shuttering the x-ray beam in the event of equipment failure affecting data collection. Such termination shall occur within an interval that limits the total scan time to no more than 110 percent of its preset value through the use of either a backup timer or devices which monitor equipment function. (b)A visible signal shall indicate when the x-ray exposure has been terminated through the means required by WAC 246-226-020(1)(a). (c)The operator shall be able to terminate the x-ray exposure at any time during a scan, or series of scans under CT x-ray system control, of greater than one-half second duration. (2)Tomographic plane indication and alignment (a)For any single tomogram system, means shall be provided to permit visual determination of the tomographic plane or a reference plane offset from the tomographic plane. (b)For any multiple tomogram system, means shall be provided to permit visual determination of the location of a reference plane. This reference plane can be offset from the location of the tomographic planes. (c)If a device using a light source is used to satisfy the requirements of WAC	CT equipment specifications and performance shall meet state and federal requirements.	In addition to all standards listed in the IAC document (Parts A, B and C), the facility, including all staff, must comply at all times with all federal, state and local laws and regulations, including but not limited to laws relating to licensed scope of practice, facility operations and billing requirements.		

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	<p>246-226-020(2) (a) and (b), the light source shall provide illumination levels sufficient to permit visual determination of the location of the tomographic plane or reference plane under ambient light conditions of up to 500 lux.</p> <p>(3) Beam-on and shutter status indicators and control switches.</p> <p>(a) The CT x-ray control and gantry shall provide visual indication whenever x-rays are produced and, if applicable, whether the shutter is open or closed.</p> <p>(b) Each emergency button or switch shall be clearly labeled as to its function.</p> <p>(4) Indication of CT Conditions of Operation. The CT x-ray system shall be designed such that the CT conditions of operation to be used during a scan or a scan sequence shall be indicated prior to the initiation of a scan or a scan sequence. On equipment having all or some of these conditions of operation at fixed values, this requirement may be met by permanent markings. Indication of CT conditions of operation shall be visible from any position from which scan initiation is possible.</p> <p>(5) Extraneous Radiation. When data are not being collected for image production, the radiation adjacent to the tube port shall not exceed that permitted by WAC 246-225-040(3) and (4).</p> <p>(6) Maximum Surface CTDI Identification. The angular position where the maximum surface CTDI occurs shall be identified to allow for reproducible positioning of a CT dosimetry phantom.</p> <p>(7) Additional requirements applicable to CT X-ray systems:</p> <p>(a) The total error in the indicated location of the tomographic plane or reference plan shall not exceed 5 millimeters.</p> <p>(b) If the x-ray production period is less than one-half second, the indication of x-ray production shall be actuated for at least one-half second. Indicators at or near the gantry shall be discernible from any point external to the patient opening where insertion of any part of the human body into the primary beam is possible.</p> <p>(c) The deviation of indicated scan increment versus actual increment shall not exceed plus or minus 1 millimeter with any mass from 0 to 100 kilograms resting on the support device. The patient support device shall be incremented from a typical starting position to the maximum incremented distance or 30 centimeters whichever is less, and then returned to the starting position. Measurement of actual versus indicated scan increment may be taken anywhere along this travel.</p> <p>(d) Premature termination of the x-ray exposure by the operator shall necessitate resetting of the CT conditions of operation prior to the initiation of another scan.</p>				
<p><b>WAC 246-226-030 Facility Design Requirements</b></p>	<p>(1) Aural Communication. Provision shall be made for two-way aural communication between the patient and the operator at the control panel.</p> <p>(2) Viewing systems.</p>	<p>CT equipment specifications and performance shall meet state and federal requirements.</p>	<p>Direct visualization and audible monitoring of the patient must be available through a leaded glass window, while protecting the personnel from radiation exposure.</p>		

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	<p>(a) Windows, mirrors, closed-circuit television, or an equivalent shall be provided to permit continuous observation of the patient during irradiation and shall be so located that the operator can observe the patient from the control panel.</p> <p>(b) When the primary viewing system is by electronic means, an alternate viewing system (which may be electronic) shall be available for use in the event of failure of the primary viewing system.</p>				
<p><b>WAC 246-226-030 Facility Design Requirements</b></p>	<p>(3) A fixed CT scanner enclosure shall be a permanent part of the building or vehicle.</p> <p>(4) The degree of protection required for a CT scanner operator's booth and surrounding occupied areas shall be determined by the workload, use, occupancy factors and the kilovoltage, milliamperage, mechanical movement, and distance factor, and is subject to design approval by the department according to recommendations of the National Council on Radiation Protection and Measurements (NCRP) Report # 147, 2004. <i>See WAC 246-225-030, Plan Review.</i></p>	<p>CT equipment specifications and performance shall meet state and federal requirements</p>	<p>The Quality Improvement (QI) Program must consist of equipment Quality Control (QC) testing, CT system installation acceptance testing including post installation shielding verification.</p> <p><b>(a)</b> A sketch showing the layout of the equipment in the room, and identifying the surrounding areas (e.g.; toilet, corridor, outside wall, exam room, office, etc.).</p> <p><b>(b)</b> Measurements of exposure (or exposure rate) obtained with an appropriately sensitive radiation measurement system.</p> <p><b>(c)</b> Calculations to demonstrate compliance with weekly or annual exposure limits, which must include a determination of workload, identification of occupancy of each adjacent area, and identification of the applicable exposure limit (controlled and non-controlled areas).</p> <p><b>(d)</b> Note that shielding designs are not required to be submitted.</p>	<p>For hospitals that provide Computed Tomography (CT), Positron Emission Tomography (PET), or Nuclear Medicine (NM) services: The hospital conducts a shielding integrity survey of rooms where ionizing radiation will be emitted or radioactive materials will be used or stored (for example; scan rooms, injection rooms, hot lab).</p> <p><b>Note:</b> For additional guidance on structural shielding design, see National Council on Radiation Protection and Measurements Report No. 147 (NCRP-147).</p>	<p>Promotes the proper use of radiation shielding in accordance with ALARA (As Low As Reasonably Achievable) and other radiation safety principles;</p>
<p><b>WAC 246-226-030 Facility Design Requirements</b></p>	<p>(5) Protective barriers shall be provided in the ceiling, floor, and walls of a fixed CT scanner enclosure to meet the requirements of WAC 246-221-010 and 060. As of July 1, 2014, all CT x-ray systems installed thenceforth and those systems not previously surveyed shall have a radiation survey made to identify radiation levels at the control panel and spaces adjoining the CT room. This shall be done by, or under the direction of, a qualified medical physicist. In addition, such surveys shall be done after any change in the facility or equipment which might cause a significant increase in radiation hazard. The registrant shall obtain written reports of these surveys from the qualified medical physicist, and copies of the reports shall be made available to the Department upon request.</p>	<p>CT equipment specifications and performance shall meet state and federal requirements</p>		<p>The hospital conducts a shielding integrity survey of rooms where ionizing radiation will be emitted or radioactive materials will be used or stored (for example, scan rooms, injection rooms, hot lab).</p>	
<p><b>WAC 246-226-030 Facility Design Requirements</b></p>	<p>(6) The control panel for a fixed CT scanner shall be shielded by a protective barrier which cannot be removed from a protective position between the operator and the radiation source during machine operation. Portable shields or movable barriers with electrical interlocks shall not be approved in lieu of compliance with this rule.</p> <p>(7) Mobile or portable CT scanners used routinely in a single room shall be</p>	<p>CT equipment specifications and performance shall meet state and federal requirements</p>	<p>A separate, radiation shielded control room or area must be used by staff during acquisitions. No staff should routinely enter the CT room or area when the x-ray tube is active.</p>		

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	<p>considered a fixed installation and shall comply with the requirements of subrules (1) to (6) of this rule. Mobile or portable CT scanners used in more than one room shall be equipped with a shield adequate to protect the operator and surrounding areas to the limits specified in (4) and (5) above.</p> <p>(8) CT scanners mounted in a vehicle or trailer must meet requirements of sub rules (1) through (6)</p>				
<p><b>WAC 246-226-040 CT Facility Accreditation</b></p>	<p><i>Placeholder</i></p>				
<p><b>WAC 246-226-050 Operating Procedures and Conditions of Operation</b></p>	<p>(1) Effective [DATE], a registrant shall provide means to record and retrieve estimated patient dose from every CT study performed. Requests for estimated patient dose shall be honored within two weeks of the request.</p> <p>(2) The registrant conducting the study shall electronically send each CT study and protocol page that lists the technical factors and estimated dose to the Picture Archiving and Communications System (PACS).</p> <p>(3) The displayed dose on the CT console shall be verified annually by a medical physicist to ensure the displayed doses are within 20 percent of the dose measured in accordance with WAC 246-226-090 (1) (c). If such error is greater than 20%, written documentation of the actual discrepancy and reason for it shall be made by the vendor or medical physicist and posted at the CT console.</p> <p>(4) For the purposes of this section, dose of radiation shall be interpreted as the computed tomography index volume (CTDI<sub>vol</sub>) and/or dose length product (DLP), as defined by the International Electrotechnical Commission (IEC) and recognized by the federal Food and Drug Administration (FDA).</p>	<p>Each facility must have a process in place for all patients to obtain copies of their records and images that is HIPAA compliant. Patients should be made aware of this process at the time of examination or if requested by the patient at a later date.</p>	<p>A system for recording and archiving CT data (images, measurements and final reports) obtained for diagnostic purposes must be in place.</p> <p>Critical reconstructed CT data should be readily retrievable for comparison with new examinations.</p> <p>A record of the communication should be maintained.</p> <p>If preliminary results are provided by an interpreting physician, the final report should be generated within two working days.</p> <p>In addition to the requirements, it is recommended that the final report include:</p> <p>Documentation of dose reduction technique if used (e.g., prospective gating, low energy and/or dose modulation) is recommended in the report;</p> <p>Details of any non-standard patient preparation or treatment, if required, should be included in the final report; appropriate recommendation for follow up of incidental findings; the reasons for limited examinations (if performed);</p> <p>Comparison with previous studies (if available).</p>	<p>For hospitals that provide computed tomography (CT) services: A qualified medical physicist measures the actual radiation dose * produced by each diagnostic CT imaging system at least annually and verifies that the radiation dose displayed on the system for standard adult brain, adult abdomen, and pediatric brain protocols is within 20 percent of the actual amount of radiation dose delivered. The dates of these verifications are documented.</p> <p>For hospitals that provide computed tomography (CT) services: When utilizing standard adult brain, adult abdomen, and pediatric brain protocols, a qualified medical physicist measures the actual radiation dose produced by each diagnostic CT imaging system at least annually and verifies that the radiation dose displayed on the system is within 20 percent of the actual amount of radiation dose delivered. The dates of these verifications are documented.</p> <p>For hospitals that provide computed tomography (CT) services: If the hospital does not utilize standard adult brain, adult abdomen, or pediatric brain protocols, the hospital uses a qualified medical physicist to measure the actual radiation dose produced by each diagnostic CT imaging system at least annually and</p>	<p>Providing reasonable access to <i>patient</i> health information including imaging records in accordance with the organization's medical record policy</p> <p>The <i>imaging provider</i> shall implement <i>patient</i> confidentiality policies and procedures for responding to requests by <i>patients</i>, payers, and other third parties for medical records that are documented and require:</p> <p>Compliance with the Health Insurance Portability and Accountability Act of 1996 (HIPAA); <b>and</b></p> <p>Protected Health Information (PHI) can only be accessible to authorized personnel involved in the diagnosis and treatment of the <i>patient</i> and disclosed to others as permitted by federal and state law.</p>

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				<p>verify that the radiation dose displayed on the system is within 20 percent of the actual amount of radiation dose delivered for the three most common CT protocols used by the hospital. The dates of these verifications are documented.</p> <p>For hospitals that provide computed tomography (CT) services: The hospital documents in the patient's record the radiation dose on every study produced during a CT examination. <b>Note 1:</b> This element of performance is applicable only for systems capable of calculating and displaying radiation doses. <b>Note 2:</b> This element of performance does not apply to systems used for therapeutic radiation treatment planning or delivery, or for calculating attenuation coefficients for nuclear medicine studies.</p> <p>For hospitals that provide computed tomography (CT) services: The interpretive report of a diagnostic CT study includes the radiation dose. * The dose is either recorded in the patient's interpretive report or included on the protocol page, which is then attached to the interpretive report. <b>Note:</b> This element of performance is applicable only for systems capable of calculating and displaying radiation doses.</p> <p>For hospitals that provide computed tomography (CT) services: The interpretive report of a diagnostic CT study includes the radiation dose. The dose is either recorded in the patient's interpretive report or included on the protocol page, which is then attached to the interpretive report. <b>Note:</b> This element of performance is only applicable for systems capable of calculating and displaying radiation</p>	

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				<p>doses.</p> <p>For hospitals that provide computed tomography (CT) services: The hospital electronically sends each CT study and protocol page that lists the radiation dose * and related technical factors to the hospital's electronic picture archiving and communications system. <b>Note:</b> This element of performance is applicable only for systems capable of calculating and displaying radiation doses.</p> <p>For hospitals that provide computed tomography (CT) services: The hospital electronically sends each CT study and protocol page that lists the radiation dose and related technical factors to the hospital's electronic picture archiving and communications system (PACS). <b>Note:</b> This element of performance is only applicable for systems capable of calculating and displaying radiation doses.</p> <p>For hospitals that provide computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), or nuclear medicine (NM) services: Prior to conducting a diagnostic imaging study, the hospital verifies the following: - Correct patient - Correct imaging site - Correct patient positioning - For CT only: Correct imaging protocol - For CT only: Correct scanner parameters</p> <p>For hospitals that provide computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), or nuclear medicine (NM) services:</p>	

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				The hospital makes certain that imaging studies are based on an order from a licensed independent practitioner or other qualified practitioner in accordance with law and regulations.	
<b>WAC 246-226-050 Operating Procedures and Conditions of Operation</b>	<p>(5) <a href="#">[Insert date six months after the effective date of these rules]</a>, the CT registrant shall establish scanning protocols in consultation with a medical physicist.</p>	<p>Develop, implement and enforce policies and procedures related to radiation protection, the hazards of radiation exposure to both patients and radiological personnel, and appropriate monitoring requirements.</p> <p>Develop, implement and enforce policies and procedures to address safety issues, including contrast use and sedation, and reduce exposure as much as reasonably possible for pediatric patients.</p> <p>Ensure that a physician is present and immediately available when contrast is administered to patients.</p> <p>Develop, implement and enforce policies and procedures to identify pregnant or potentially pregnant patients.</p> <p>Develop, implement and enforce policies and procedures consistent with ACR's Position Statement on Quality Control and Improvement, Safety, Infection Control, and Patient Concerns.</p> <p>Be responsible for assuring</p>	<p>Written policies and procedures must exist to ensure patient and personnel safety. Safety policies must be enforced, reviewed and documented annually by the Quality Improvement (QI) Committee or the Medical Director.</p> <p>For all clinical procedures there must be a process that assures accurate patient identification prior to initiating the procedure. Two independent patient-specific identifiers must be used.</p> <p>All CT facility professionals must have an understanding of the radiation exposure involved in CT to advise patients undergoing CT imaging.</p> <p>A separate, radiation shielded control room or area must be used by staff during acquisitions. No staff should routinely enter the CT room or area when the x-ray tube is active.</p> <p>Staff radiation exposure must be monitored, and reviewed by the Quality Improvement (QI) Committee. The results must be communicated to the staff member.</p> <p>The facility must comply with the</p>	<p>For hospitals that provide computed tomography (CT) services: The hospital establishes imaging protocols based on current standards of practice, which address key criteria including, clinical indication, patient age, patient positioning, scan times, radiation dose limits, and contrast administration. (See also PI.01.01.01, EP 46)</p>	<p>The availability and common use of multi-detector row CT scanning has resulted in protocols that have become more complex because of a larger number of interacting operator-defined parameters. Each facility should submit the protocols they use on a regular basis. The protocol should include the following:</p> <ul style="list-style-type: none"> <li>A. Indications for the examination</li> <li>B. Necessity for the use of contrast (intravenous/intrathecal)</li> <li>C. Slice thickness</li> <li>D. Standard reconstruction images</li> <li>E. Scan parameters</li> </ul> <p><b>Scan Parameters</b></p> <ul style="list-style-type: none"> <li>A. <b>Type of Exam:</b> Neurologic, Musculoskeletal, Body or Pediatric</li> <li>B. <b>Anatomic Coverage:</b> Superior and inferior extent of the examination.</li> <li>C. <b>Contrast:</b> Indications, dose, injection rate, and scan delay, if used.</li> <li>D. <b>Effective Detector Row Thickness:</b> This parameter determines the reconstructed section thickness that cannot be smaller than the effective detector row thickness.</li> <li>E. <b>Coverage:</b> Anatomical regions included in scan.</li> <li>F. <b>Radiation Exposure:</b> mAs, and kVp with CT dose index volume (<i>CTDIvol</i>)</li> </ul>

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		<p>compliance with the recommendations of the medical physicist.</p> <p>Be responsible for the oversight and submission of all materials, including clinical and phantom images, as appropriate, quality control data and such other information as required by the CT Accreditation Program.</p> <p>Be responsible for notifying the ACR within 15 days of any changes in imaging equipment (units) or changes in the use of equipment that could affect clinical or phantom images (i.e.; in CT an adults-only approved scanner being used to scan pediatric patients).</p> <p>Ensure that all accreditation criteria are met and that the same standard of performance is maintained during the 3-year accreditation period.</p> <p>Provide immediate written notice to the ACR upon the termination of any accredited services provided by the Practice Site or a change in ownership of the operating location.</p> <p>Ensure that all physicians providing services at this facility are actively participating in a formal peer review program that meets the stated accreditation requirements.</p>	<p>currently published ALARA recommendations for personnel.</p> <p>There must be restriction of the public to radiation areas.</p> <p>Separate pediatric protocols must be established based on patient age or weight. Pediatric protocols must be modified to reduce radiation exposure where appropriate or possible. The use of higher than recommended radiation doses must be justified.</p> <p>Use of appropriate radiation dose reduction devices OR techniques for appropriate moderation of exposure must be documented or their lack of use justified when applicable. Dose reduction techniques include but are not limited to prospective gating, tube modulation (kVp and/or mAs), and manufacturer dose reduction protocol and/or dose modulation.</p> <p>The facility must subscribe to dose optimization to patients.</p> <p>Radiation dose for CT acquisition must be set at the lowest values that are consistent with satisfactory image quality for the study ordered.</p> <p>Patient Pregnancy Screening Policy – For all clinical procedures there must be a process that assures that patients who could be pregnant are identified. This must be documented and contain the signature/initials of the patient and/or technologist verifying the information. This procedure must include an explanation of the proper steps to be taken if a patient may be or is pregnant.</p> <p>If a diagnostic CT examination is needed for a patient who is pregnant, knowledgeable staff (i.e., Medical Director or other designee) must</p>		<p>in mGy.</p> <p><b>G. Intravenous contrast:</b> Only non-ionic contrast agents should be used. Dose should be appropriate for the <i>patient</i>. (Pediatric doses should be calculated based on 2.0 ml/kg or less.)</p> <p><b>H. Injection rate:</b> No greater than 5 ml/second.</p> <p><b>I. Acquisitions:</b> Single phase, multi-phase, delay, equilibrium.</p> <p><b>J. Oral contrast:</b> To be used as needed for stomach and bowel opacification.</p> <p><b>K. Window and level:</b> Soft tissue, lung, liver, bone and 3D reconstruction.</p> <p><b>L. Slice thickness:</b> Appropriate to the study being performed.</p> <p><b>M. Reconstruction:</b> Should be performed when additional diagnostic benefit can be achieved.</p> <p>The <i>imaging provider</i> shall maintain a comprehensive <i>quality assurance (QA) program</i> that includes the following actions:</p> <p>Operates according to written policies and procedures that are reviewed annually by the <i>medical director/supervising physician</i>;</p> <p>Is overseen by a quality assurance committee or another formal panel of the <i>imaging provider</i> that includes participation by the <i>medical director/supervising physician</i>;</p> <p>Tracks, analyzes and remediates complaints, grievances, concerns and errors;</p> <p>Oversees <i>quality control (QC) program</i>, including appropriate remediation procedures for any known substantive deficiencies;</p> <p>Oversees <i>imaging system</i> training and other relevant educational programs;</p>

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			<p>discuss the potential risk to the fetus and document the general content of the discussion.</p> <p>If determined that the study will not be performed, then the patient must receive options for alternative care</p>		<p>Helps monitor manufacturer requirement notices for <i>non-imaging and imaging systems</i> (stationary and/or <i>mobile</i>) and updates policies and procedures;</p> <p>Helps identify, implement and benchmark clinical policies; <b>and</b> Helps ensure compliance with other quality requirements including the <i>MAP Standards</i>. Creates staff education and training programs based upon analysis of measured QA deficiencies.</p> <p>Implements of clinical peer review program for assessment of diagnostic accuracy in medical imaging reporting.</p>
<p><b>WAC 246-226-050 Operating Procedures and Conditions of Operation</b></p>	<p>(a) Each registrant shall review all of their CT exam scan parameters every twelve months to ensure they are correct for the intended dose and image quality. Comparison shall be made to the dose assessments that were made during the last annual review by the medical physicist. The scan parameter review shall be conducted by the medical physicist and at least one of the following facility staff: the lead CT interpreting/supervising physician, CT medical director, or lead CT technologist. The evaluation or review shall determine whether the scan parameters from each CT study is appropriate or whether there is an opportunity to reduce the technique and lower the <i>CTDIvol</i> without an unacceptable sacrifice in image quality. <i>Written and signed documentation of this 12-month review shall be made and kept available for inspection for each CT unit at the facility. Note that the annual protocol review and the medical physics review may be conducted simultaneously, but if so, other facility staff shall be involved, as noted above.</i></p> <p>(b) The approved CT scan parameters shall ensure that image quality remains at the desired noise level and results in acceptable dose levels according to standards found in WAC 246-226-060. Once approved, the parameters should be recorded and guidelines of variability established. The limits of the variability range shall be approved by the lead CT technologist or lead CT interpreting/supervising CT physician. Technologists are permitted to adjust technical parameters for any given patient study as long as they remain within the approved limits of variability. <i>Any permanent changes in scan parameters shall be</i></p>		<p>Modifications to the manufacturer's default protocols that increase patient dose above the site appointed physicist recommendation must be reviewed by a medical physicist prior to implementation of the proposed change(s) in order to assess impact on radiation dose and image quality.</p> <p>If the physicist deems that the proposed change(s) is appropriate, the facility must maintain documentation of the protocol change(s) that includes the rationale for the change, including the details of the change (exactly what changes were made to the technical parameters for the scans), and the physicist review of impact on dose and image quality.</p> <p>Separate pediatric protocols must be established based on patient age or weight. Pediatric protocols must be modified to reduce radiation exposure where appropriate or possible. The use of higher than recommended radiation doses must</p>	<p>The hospital identifies activities and frequencies to maintain the image quality of the diagnostic images produced. The content and frequency of these activities are in accordance with state regulatory requirements, manufacturers' guidelines, and the recommendations of a medical physicist.</p> <p>For hospitals that provide computed tomography (CT) services: Imaging protocols are kept current and adjusted with input from an interpreting radiologist, medical physicist, and chief imaging technologist. Imaging protocols are adjusted based on individual patient needs and on changes to standards of practice.</p>	<p>Regarding imaging clinical policies, the <i>imaging provider</i> shall: Maintain and document all major clinical workflows in writing or electronically;</p> <p>Annually review and update all clinical policies and procedures under the <i>medical director/supervising physician's</i> supervision;</p> <p>Document all changes; Notify all staff impacted by any new or revised clinical policies and procedures;</p> <p>Train staff at least annually; Utilize outside clinical peers to support and/or review all clinical policies and procedures; <b>and</b> Implements pregnancy and pediatric screening procedures and protocols;</p> <p>Pediatric CT – The use of CT scanning in children is of particular concern because children are more susceptible to the potential adverse</p>

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	<p><i>documented and approved by the lead interpreting/supervising CT physician with signature and date of approval.</i></p> <p><b>(c) Procedural, software or engineering measures such as password protection shall be in place that prohibit anyone from changing protocols without approval from the lead CT technologist or lead interpreting/supervising CT physician.</b></p> <p><b>(d) If the CT system in use at a facility has the capability of automatic tube current modulation or other dose reduction features for CT examinations, it shall be a component of appropriate examination protocols as determined by the lead CT interpreting/supervising physician.</b></p> <p><b>(e) Pediatric CT protocols shall be available on each CT scanner and used when children undergo CT examinations.</b></p>		<p>be justified.</p> <p>The QI Committee should, at minimum, consist of the Technical Director, Medical Director, service engineer and/or site-appointed medical physicist. The QI Program should also include a process for evaluating indicators such as backlog for scheduled examinations, late reporting, long patient waiting times and utilization review. QI records should include, but not be limited to, image quality evaluation, dose assessment, peer review, correlation data and information gained from the areas outlined in Section 2C.</p>		<p>effects of radiation than adults. Imaging facilities that provide CT imaging must demonstrate pediatric protocols to improve radiation protection for children.</p>
<p><b>WAC 246-226-050 Operating Procedures and Conditions of Operation</b></p>	<p><b><i>(f) Each CT registrant shall assure that CT manufacturer's technical and/or applications representatives are not permitted to make protocol changes or other software changes or upgrades that would impact radiation dose or image quality without the approval of the lead CT interpreting/supervising physician, the lead CT technologist or the medical physicist.</i></b></p>		<p>Modifications to the manufacturer's default protocols that increase patient dose above the site appointed physicist recommendation must be reviewed by a medical physicist prior to implementation of the proposed change(s) in order to assess impact on radiation dose and image quality.</p>		
<p><b>WAC 246-226-050 Operating Procedures and Conditions of Operation</b></p>	<p><b>(6) The CT operator shall check the display panel before and after performing each scan to make sure the amount of radiation delivered is appropriate for the exam and individual patient. This may be accomplished by reviewing dose indicator devices if available or dose indices such as the technique factors. Dose indicators or indices outside of expected values shall be documented and reviewed by an interpreting physician or medical physicist.</b></p>				
<p><b>WAC 246-226-050 Operating Procedures and Conditions of Operation</b></p>	<p><b><i>(7) Each CT facility shall have a written policy approved by the medical director or lead CT interpreting/supervising physician that establishes internal rules for retaking CT exams, i.e., how many are authorized on a patient, who can authorize additional retakes, etc.</i></b></p>				
<p><b>WAC 246-226-050 Operating Procedures and Conditions of Operation</b></p>	<p><b>(8) Staff personnel routinely working with or around radiation sources shall not be required by the registrant to restrain patients during CT examinations. If such procedure is permitted personnel exposure shall not exceed the limits in WAC 246-221-010 or the procedure is prohibited.</b></p> <p><b>(9) When a patient must be held in position for CT, mechanical supporting or restraining devices shall be used unless contraindicated. If the patient must be held by an individual, this individual shall wear protective gloves and a protective apron of 0.5 millimeter minimum lead equivalence and be so</b></p>		<p>Staff radiation exposure must be monitored, and reviewed by the Quality Improvement (QI) Committee. The results must be communicated to the staff member. The facility must comply with the currently published ALARA recommendations for personnel.</p> <p>There must be restriction of the</p>	<p>For hospitals that provide computed tomography (CT), positron emission tomography (PET), or nuclear medicine (NM) services: The hospital takes appropriate actions to keep staff radiation exposure levels below regulatory limits.</p>	<p>Monitors all staff for occupational radiation exposure as required by federal and state requirements;</p>

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	<p>positioned that no part of his or her body will be struck by the useful beam and that his or her body is as far as possible from the edge of the useful beam.</p> <p>(10) Only individuals whose presence is necessary are allowed in a fixed CT scanner room during exposure. Each individual, except the patient, shall be protected by at least 0.5 millimeter lead equivalent aprons or a whole body protective barrier.</p> <p>(11) Personnel monitoring is required in controlled areas for each individual occupationally exposed to ionizing radiation from CT scanner equipment. Personnel monitoring devices shall be permanently assigned to each occupationally exposed individual. Monitoring shall be continuous during employment as a radiation worker.</p> <p>(12) Personnel exposure records shall be kept on permanent available file at the facility where the exposure occurs.</p> <p>(13) Monitoring devices used to estimate whole body exposure shall normally be worn on the chest or abdomen. Monitoring of any other body part shall comply with WAC 246-221-090.</p> <p>(14) Monitoring devices worn to estimate personnel occupational exposure shall not be worn by the individual when he or she is exposed as a patient for any medical or dental reason.</p> <p>(15) A CT scanner shall not be left unattended without locking the apparatus, room, or building in some manner which will prevent use of the apparatus by unauthorized persons.</p>		public to radiation areas.	<p>For hospitals that provide computed tomography (CT), positron emission tomography (PET), or nuclear medicine (NM) services: The hospital monitors radiation exposure levels for all staff and licensed independent practitioners who routinely work in CT, PET, and NM areas.</p>													
<b>WAC 246-226-060 Dose Limits</b>	<p>The CTDI<sub>vol</sub> for the following CT examinations on standard phantoms shall not exceed the dose limits shown below.</p> <table border="1" data-bbox="273 1366 891 1655"> <thead> <tr> <th>Examination</th> <th>Dose Limit</th> </tr> </thead> <tbody> <tr> <td colspan="2" style="text-align: center;"><b>CTDI<sub>vol</sub> (mGy)</b></td> </tr> <tr> <td><b>Adult Head</b></td> <td><b>80</b></td> </tr> <tr> <td><b>Adult Abdomen</b></td> <td><b>30</b></td> </tr> <tr> <td><b>Pediatric Abdomen (5 year old, 40 lbs)</b></td> <td><b>20</b></td> </tr> <tr> <td><b>Pediatric Head</b></td> <td><b>40</b></td> </tr> </tbody> </table>	Examination	Dose Limit	<b>CTDI<sub>vol</sub> (mGy)</b>		<b>Adult Head</b>	<b>80</b>	<b>Adult Abdomen</b>	<b>30</b>	<b>Pediatric Abdomen (5 year old, 40 lbs)</b>	<b>20</b>	<b>Pediatric Head</b>	<b>40</b>	<b>ACR CT Accreditation Dose Pass/Fail Criteria and Reference Levels Examination Pass/Fail Criteria Reference Levels</b> <b>CTDI<sub>vol</sub> (mGy) CTDI<sub>vol</sub> (mGy)</b> Adult Head 80 75 Adult Abdomen 30 25 Pediatric Abdomen (40-50 lb.) 20 15 Pediatric Head (1 year old) 40 35			<p>It is important to recognize that facility accreditation is in part based upon DIAGNOSTIC IMAGE QUALITY. Facilities should be aware of and actively participating in the principle of ALARA (As Low As Reasonably Achievable). It is important the facility demonstrate that it operates under a policy of limiting radiation while obtaining diagnostic quality examinations. The CT dose index volume (CTDI<sub>vol</sub>) can be used to calculate the approximate mGy dose to <i>patients</i>. In order for a facility to pass accreditation the mGy dose should be (<i>phantom</i> must be scanned at comparable dosage to demonstrate contrast at dose):</p>
Examination	Dose Limit																
<b>CTDI<sub>vol</sub> (mGy)</b>																	
<b>Adult Head</b>	<b>80</b>																
<b>Adult Abdomen</b>	<b>30</b>																
<b>Pediatric Abdomen (5 year old, 40 lbs)</b>	<b>20</b>																
<b>Pediatric Head</b>	<b>40</b>																

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					<p>A. <b>75 mGy</b> or less for adult brain  B. <b>30 mGy</b> or less for adult chest (for single run)  C. <b>25 mGy</b> or less for adult abdomen  D. <b>25 mGy</b> or less for adult pelvis  E. <b>70 mGy</b> or less for pediatric brain must not exceed dose for age weight category (see Image Gently Chart in Appendix D)  F. <b>25 mGy</b> or less for pediatric chest must not exceed dose for age weight category (see Image Gently Chart in Appendix D)  G. <b>20 mGy</b> or less for pediatric abdomen must not exceed dose for age weight category (see Image Gently Chart in Appendix D)  H. <b>20 mGy</b> or less for pediatric pelvis must not exceed dose for age weight category (see Image Gently Chart in Appendix D)</p>
<p><b>WAC 246-226-070 Required Notification to the State of a Deterministic Injurious Health Effect</b></p>	<p>(1) If a physician finds that a patient who has undergone a CT scan has incurred a deterministic radiation injury such as epilation, erythema or cataracts, the facility conducting the CT scan shall report to the Department in writing within 48 hours the following information:  (a) Cause of the incident  (b) Estimated dose to the patient, and body part involved.  (c) Methods to prevent recurrence.  (2) Any single CT scan over 1 Gray shall also be reported to the Department.</p>		<p>Incident Report/Adverse Events Policy – A policy for documentation of adverse events (i.e., contrast reactions, patient falls, emergencies) must be in place.</p>	<p>For hospitals that provide computed tomography (CT) services:  The hospital collects data on incidents where radiation dose limits identified in imaging protocols have been exceeded.</p>	<p>Requires the timely reporting of a <i>sentinel event</i> to the proper authorities – along with following all internal reporting directives;</p>
<p><b>WAC 246-226-080 CT Personnel Qualifications</b></p>	<p>(1) Radiological Technologists. [Insert date twelve months after the effective date of these rules, all CT examinations shall be performed by:  (a) a physician licensed under RCW 18.71.021 or RCW 18.57.031, or  (b) a radiologic technologist who:  (i) is currently certified as a radiologic technologist under chapter 18.84 RCW, and  (ii) has the advanced certification in Computed Tomography, known as “post-primary pathway” certification, through the American Registry of Radiologic Technologists (ARRT).  (2) Medical Physicist. Each registrant with 1 or more CT scanners shall employ or contract with a medical physicist to review the quality and safety of the operation of the CT scanner. The medical physicist shall meet all of the following:  (a) Initial qualifications. Before beginning to independently provide consultation to a CT facility, a medical physicist shall meet one of the following:  (i) Be certified in diagnostic radiological physics or radiological physics by the American Board of Radiology (ABR), or in diagnostic</p>	<p><u>Technologists:</u>  ARRT registered (RT) and radiography (R) and/or computed tomography (CT) certified and/or unrestricted state license9,  <b>and</b>  Documented training and experience in CT,  <b>and</b>  Documented training and experience in operating CT equipment and radiation physics and protection.    Passing the advanced examination for CT certification is recommended.    <u>Medical Physicist:</u>  <b>Board Certified</b>  Certified in Diagnostic Radiological</p>	<p><u>Technologists:</u>  All members of the technical staff must meet one or more of the following criteria:    American Registry of Radiologic Technologists (ARRT) or the Canadian Association of Medical Radiation Technologists (CAMRT) certification in CT imaging (i.e., ARRT ( R) ARRT (CT)).    <b>OR</b>  An appropriate nationally recognized credential in another medical imaging field (i.e., CNMT, RT (MR), RT).    <b>OR</b>  Completion of 12 months full-time</p>	<p><u>Technologists:</u>  For hospitals that provide computed tomography (CT) services:  The hospital verifies and documents that a radiologic technologist who performs CT exams has the following qualifications:  - Registered by the American Registry of Radiologic Technologists (ARRT)  - Certified by the ARRT in radiography and/or computed tomography  - Trained and experienced in operating CT equipment    Additional requirements from TJC for techs:    For hospitals that provide computed tomography (CT) services:  The hospital verifies and documents</p>	<p><u>Technologists:</u>  The <i>medical imaging technologist(s)</i> shall:  Have an American Registry of Radiologic Technologists (ARRT) registration;    Be trained and hold current, unrestricted registration(s) or be <i>licensed</i> in each of the modalities performed;    Have an associate’s or bachelor’s degree in radiologic science whenever required, with requisite job experience;  <b>and</b>  Continue to complete ongoing education as required by the <i>license</i>, certification and <i>medical director’s</i></p>

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	<p>imaging physics by the American Board of Medical Physics (ABMP), or in diagnostic radiology physics by the Canadian College of Physicists in Medicine (CCPM).</p> <p>(ii) Have a graduate degree in medical physics, radiological physics, physics, or other relevant physical science or engineering discipline from an accredited institution and have formal coursework in the biological sciences with at least 1 course in biology or radiation biology and 1 course in anatomy, physiology, or similar topics related to the practice of medical physics, and have 3 years of documented experience in a clinical CT environment.</p> <p>(b) Continuing experience. After the second anniversary of the date when the requirements of subdivision (a) of this rule were completed, the medical physicist shall have evaluated at least 5 CT scanners in the prior 24-month period.</p> <p>(c) Continuing education. After the third anniversary of the date when the requirements of subdivision (a) of this rule were completed, the medical physicist shall have earned at least 15 continuing medical education units, at least half shall be category 1, in the prior 36-month period. The continuing education shall include credits pertinent to CT.</p> <p>(d) Re-establishing qualifications. A medical physicist who fails to maintain the required continuing experience or continuing education requirements shall reestablish his or her qualifications before resuming the independent evaluation of CT scanners and facilities, as follows:</p> <p>(i) A medical physicist who fails to meet the continuing experience requirements of subdivision (b) of this rule shall evaluate a sufficient number of CT scanners, under the supervision of a medical physicist, to meet the requirements of subdivision (b) of this rule.</p> <p>(ii) A medical physicist who fails to meet the continuing education requirements of subdivision (c) of this rule shall obtain a sufficient number of additional continuing education credits to meet the requirements of subdivision (c) of this rule.</p> <p>(3) Physicians.</p> <p>(a) <u>All physicians who supervise or interpret CT examinations shall be licensed under 18.71 RCW or 18.57 RCW.</u></p> <p>(b) In addition to being in compliance with the interpreting physician qualifications stated above, the supervising physician also has the following responsibilities:</p> <p>(i) Develop, implement and enforce policies and procedures related to radiation protection, the hazards of radiation exposure to both patients and radiological personnel, and appropriate monitoring requirements.</p> <p>(ii) Develop, implement and enforce policies and procedures to</p>	<p>Physics or Radiological Physics by the American Board of Radiology; in Diagnostic Imaging Physics by the American Board of Medical Physics; or in Diagnostic Radiology Physics by the Canadian College of Physicists in Medicine</p> <p><b>OR</b></p> <p><b>Not Board Certified in Required Subspecialty</b> Graduate degree in medical physics, radiologic physics, physics, or other relevant physical science or engineering discipline from an accredited institution, <b>and</b> Formal coursework in the biological sciences with at least - 1 course in biology or radiation biology, and - 1 course in anatomy, physiology, or similar topics related to the practice of medical physics</p> <p>3 years of documented experience in a clinical CT environment</p> <p><b>OR</b></p> <p><b>Grandfathered</b> Conducted surveys of at least 3 CT units between January 1, 2007 and January 1, 2010</p> <p><u>Physicians:</u> All physicians who supervise and/or interpret CT examinations must be a medical practitioner who meets the following minimum criteria.</p> <p><u>Radiologist:</u> Board certification in radiology or diagnostic radiology by: o ABR, o American Osteopathic Board of Radiology, o Royal College of Physicians and</p>	<p>(35 hours/week) clinical CT experience under direct supervision of a credentialed technologist plus ONE of the following: -Completion of a formal two-year program or equivalent in another medical imaging profession, with concentration in radiation physics. -Completion of a bachelor's degree in another medical imaging specialty, with concentration in radiation physics.</p> <p><u>Medical Physicist:</u> The medical physicist must be board certified by the American Board of Radiology, the American Board of Medical Physics, or the Canadian College of Medical Physics in a discipline that includes diagnostic imaging.</p> <p><u>Physician:</u> The Medical Director must be a licensed physician and certified by the American Board of Medical Specialties (ABMS), the American Board of Podiatric Medicine (ABPM) or the American Board of Podiatric Surgery (ABPS) in a relevant specialty, or board certified in a relevant specialty recognized by the American Osteopathic Association, the American Podiatric Medical Association (APMA) or the Royal College of Physicians and Surgeons of Canada or Le College des Mediciens du Quebec:</p> <p><b>Cardiac CT:</b> Completion of Level 2 or equivalent training meeting ACCF/AHA/ACP guidelines for cardiovascular CT (which includes attendance in at least 20 hours of CT classes relevant to the specialty, a portion of which are in radiation safety) with SCCT letter of verification or a letter of verification from the program director. (See Appendix)</p> <p><b>OR</b></p>	<p>that radiologic technologists who perform CT examinations participate in ongoing education. Ongoing education must include annual training on radiation dose reduction awareness and techniques following As Low As Reasonably Achievable (ALARA), Image Gently, and Image Wisely concepts.</p> <p><u>Medical Physicist:</u> For hospitals that provide computed tomography (CT) services: Diagnostic medical physicists that support CT services are board certified in diagnostic radiological physics or radiological physics by the American Board of Radiology, the American Board of Medical Physics, or an equivalent source. If the diagnostic medical physicist is not board certified, then he or she has completed the following: - A graduate degree in medical physics, radiologic physics, physics, or another relevant physical science or engineering discipline - Formal coursework in the biological sciences with at least one course in biology or radiation biology, and one course in anatomy, physiology, or a similar topic related to the practice of medical physics - Three years of documented experience in a clinical CT environment</p> <p><u>Physicians:</u> When law or regulation requires care providers to be currently licensed, certified, or registered to practice their professions, the hospital both verifies these credentials with the primary source and documents this verification when a provider is hired and when his or her credentials are renewed. (See also HR.01.02.07, EP 2)</p>	<p>directives.</p> <p><u>Medical Physicist:</u> The <i>imaging provider</i> shall contract or employ <i>medical physicists</i> who have: A master's degree or higher in physics, physical science, or a closely related field;  An active <i>license</i> to provide services as a <i>medical physicist</i> in the states where licensure is applicable; <b>and</b> <i>Board certification or eligibility</i> from the American Board of Radiology (ABR), the American Board of Medical Physics (ABMP), the American Board of Health Physics (ABHP), or the American Board of Science in Nuclear Medicine (ABSNM) to practice independently in one or more of the subfields of <i>medical physics</i>.</p> <p><u>Physicians:</u> The <i>imaging provider</i> shall employ or contract with one or more qualified <i>interpreting physicians</i> that have: A current, unrestricted <i>license(s)</i> to practice medicine within the state of the <i>imaging provider</i> location (or if the <i>license</i> is restricted, the <i>imaging provider</i> has a process to ensure job functions do not violate the restrictions imposed by the State Board);  A <i>Board certification or eligibility</i> from a recognized specialty group in radiology (including, but not limited to, American Board of Radiology, American Osteopathic Board of Radiology, and American Chiropractic Board of Radiology); <b>OR</b> A <i>board certification or eligibility</i> in another specialty with documentation of supervised training in the interpretation and reporting of examinations;  Completion of either an accredited</p>

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	<p>address safety issues, including contrast use and sedation, and reduce exposure as much as reasonably possible for pediatric patients.</p> <p>(iii) Ensure that a physician is present and immediately available when contrast is administered to patients.</p> <p>(iv) Develop, implement and enforce policies and procedures to identify pregnant or potentially pregnant patients.</p> <p>(v) Develop, implement and enforce policies and procedures consistent with the requirements of the CT accrediting body..</p> <p>(vi) Be responsible for assuring compliance with the recommendations of the medical physicist.</p> <p>(vii) Be responsible for the oversight and submission of all materials, including clinical and phantom images, as appropriate, quality control data and such other information as required by the CT accrediting body.</p> <p>(viii) Be responsible for notifying the CT accrediting body within 15 days of any changes in imaging equipment (units) or changes in the use of equipment that could affect clinical or phantom images (i.e., in CT an adults-only approved scanner being used to scan pediatric patients).</p> <p>(ix) Ensure that all accreditation criteria are met and that the same standard of performance is maintained during the 3-year accreditation period.</p> <p>(x) Provide immediate written notice to the CT accrediting body (if so accredited), upon the termination of any accredited services or a change in ownership of the operating location.</p> <p>(xi) Ensure that all physicians providing services at this facility are actively participating in a formal peer review program that meets the stated accreditation requirements.</p>	<p>Surgeons of Canada, or</p> <ul style="list-style-type: none"> <li>o Le College des Mediciens du Quebec,</li> </ul> <p><b>and</b></p> <p>If board certified <b>before 2008</b> must also meet the following:</p> <ul style="list-style-type: none"> <li>o Oversight, interpretation and reporting of 300 CT examinations in the past 36 months</li> </ul> <p><b>OR</b></p> <p><b>(Not Board Certified)</b></p> <p>Completion of an Accreditation Council for Graduate Medical Education (ACGME) or American Osteopathic Association (AOA) diagnostic radiology residency, <b>and</b> Performance of, as well as interpretation and reporting of, 500 CT examinations in the past 36 months.<sup>1, 2</sup></p> <p><b>Occasional Readers</b></p> <p>Occasional readers who are providing imaging services to and for the practice are not required to meet the interpreting physician initial qualifications or continuing experience requirements. However, the reads of all occasional readers combined should not exceed 5% of the total volume of reads per practice and per modality. There must be an active written review process in place at the institution for occasional readers based on each institution's credentialing requirements. Validation of this process will take place during any site visit by the ACR</p> <p><u>Other Physicians:</u></p> <p>Completion of an accredited specialty residency,</p> <p><b>and</b></p> <p>200 hours of Category I continuing medical education (CME) in the performance as well as interpretation of CT in the</p>	<p>Diplomat of the Certification Board of Cardiovascular Computed Tomography (CBCCT) or Certificate of Advanced Proficiency in Cardiac CT offered through the American College of Radiology (ACR).</p> <p><b>OR</b></p> <p><b>Non-cardiac CT:</b></p> <p>Interpretation of at least 150 studies (with at least 50 where the candidate is physically present and involved in the acquisition and interpretation of the case) and attendance in at least 20 hours of CT classes relevant to the specialty, a portion of which are in radiation safety, with a letter of verification from program director.</p> <p><b>OR</b></p> <p><b>Established Practice:</b></p> <p>A physician who has been interpreting CT studies for at least five years, has acquired a minimum of 150 hours Category I CME (obtained over the course of their professional experience) and has interpreted a minimum of 500 CT examinations relative to the organ system(s) with self attestation.</p> <p><b>AND</b></p> <p>40 hours of CT relevant CME. A minimum of three hours of documented CME must be in radiation safety.</p> <p><u>Medical Director</u></p> <p>Medical Director must demonstrate an appropriate level of training and experience by meeting one or more of the following:</p> <p><b>Cardiac CT:</b></p> <p>Completion of Level 2 or equivalent training meeting ACCF/AHA/ACP guidelines for cardiovascular CT with SCCT letter of verification or a letter</p>		<p>diagnostic radiology residency program, or any other medical residency program with documentation of imaging training;</p> <p>Continuing experience as documented from interpretation and reporting of examinations; <b>and</b> Continuing education as required by medical licensing and <i>board certification or board eligibility</i></p> <p><u>Medical Director:</u></p> <p>The <i>imaging provider</i> shall employ or contract with one or more <i>medical directors or supervising physicians</i> who:</p> <p>Are responsible for the clinical oversight of the <i>imaging provider</i>, its <i>imaging facilities</i>, and its <i>ADI services</i>;</p> <p>Meet the following qualifications or requirements:</p> <p>Have a current, unrestricted <i>license</i> to practice medicine within the state of the <i>imaging provider's</i> location, or multiple current, unrestricted <i>licenses</i> if required by federal, state or local regulations or by other practice requirements (or if the <i>license</i> is restricted, the <i>imaging provider</i> has a process to ensure job functions do not violate the restrictions imposed by the State Board);</p> <p>Must be <i>board-certified</i> in a specialty as described in Standards 3.3.2 and 3.3.3.</p> <p>Possess continuing experience as documented from interpretation and reporting of examinations; <b>and</b> Maintain continuing education as required by medical licensing and <i>board certification</i>.</p> <p>The <i>medical director(s) or supervising physician(s)</i> shall meet one of the following two requirements: <i>Board-certified</i> in radiology by a</p>

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		<p>subspecialty where CT reading occurs,  <b>and</b>            Interpretation and reporting of 500 cases during the past 36 months in a supervised situation.</p>	<p>of verification from the program director and independent interpretation of at least 50 CT examinations.  <b>OR</b>            Diplomat of the Certification Board of Cardiovascular Computed Tomography (CBCCT) or Certificate of Advanced Proficiency in Cardiac CT offered through the American College of Radiology (ACR).   <b>OR</b>   <b>Non-cardiac CT:</b>            Interpretation of at least 150 studies (with at least 50 where the candidate is physically present and involved in the acquisition and interpretation of the case) and attendance in at least 20 hours of CT classes relevant to the specialty with a letter of verification from the program director and independent interpretation of at least 50 CT exams.   <b>OR</b>   <b>Established Practice:</b>            A physician, who has been interpreting CT studies for at least five years, has acquired a minimum of 150 hours Category I Continuing Medical Education (CME) (obtained over the course of their professional experience) and has interpreted a minimum of 500 CT examinations relative to the organ system(s) with self attestation.   <b>AND</b>             For all training and experience pathways listed above 40 hours of CT relevant CME. A minimum of three hours of documented CME must be in radiation safety.   <u>Technical director:</u>            The Technical Director (i.e., supervisor, chief technologist,</p>		<p>recognized specialty group in radiology (e.g., American Board of Radiology, American Osteopathic Board of Radiology or American Chiropractic Board of Radiology);  <b>OR</b>  <i>Board-certified</i> in a related specialty with documentation of supervised training in the interpretation and reporting of imaging examinations.             If the <i>imaging provider</i> is authorized to perform <i>Nuclear Medicine</i> imaging, the <i>medical director(s)</i> or <i>supervising physician(s)</i> also shall be:            Trained in the procedures of <i>Nuclear Medicine</i>            An authorized user of radioisotopes according to the regulations of the Nuclear Regulatory Commission (NRC).   <u>Imaging Manager:</u>            The <i>imaging provider</i> shall employ or contract with one or more <i>imaging managers</i> at each <i>imaging facility</i>, who among other responsibilities help oversee the operations and safety policies and procedures associated with the <i>imaging provider</i>. Specifically, each <i>imaging manager</i> shall have:             One of the following levels of education and/or experience –             American Registry of Radiologic Technologists (ARRT), a ARRT sub-certification, or registered nurse <i>license</i> with relevant specialty certification, or sufficient requisite certification based on the jurisdiction where the <i>imaging provider</i> is located             Certified Radiology Administrator (CRA),   <b>OR</b>             At least two years of documented</p>

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			<p>manager, etc.) designated to the facility must be a qualified CT technologist or a physician. The Technical Director must have appropriate training, technical certification as noted and documented experience in the field of CT imaging.</p> <p><b>Comment:</b> In a facility with no technologists, the Medical Director or a member of the medical staff may serve as Technical Director. In this case, the Medical Director or Medical staff must meet the requirements of the Technical Director and submit appropriate documentation of radiation safety and scanner training.</p> <p>The Technical Director must meet one of the following criteria:</p> <p>American Registry of Radiologic Technologists (ARRT) or the Canadian Association of Medical Radiation Technologists (CAMRT) certification in computed tomography imaging (i.e., ARRT(R) (CT).</p> <p><b>OR</b></p> <p>An appropriate nationally recognized credential in another medical imaging field to include radiation safety training (i.e., CNMT, ARRT(R), ARRT (R)(MR).</p> <p><b>AND</b></p> <p>One year of full-time equivalent experience as a CT technologist and performance of a minimum of 100 CT examinations.</p> <p><b>OR</b></p> <p>For operators of cone beam CT scanners not meeting training pathways as outlined in</p> <p><b>OR</b></p> <p>A qualified licensed physician may operate a volume or cone beam CT scanner if that person has received a minimum of at least three hours of</p>		<p>experience as an <i>imaging manager</i>; <b>and</b>  Completed continuing education as required by licensing and certification or <i>medical</i></p>

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			<p>documented, specific training in radiation safety provided by a medical physicist or qualified expert and received a 100% score on a written examination administered by the provider of the radiation safety training program.</p> <p><b>AND</b></p> <p>Received a minimum of at least four hours of documented, specific training in the operation of the scanner.</p> <p><b>OR</b></p> <p>An individual that has acquired an appropriate nationally recognized credential in another medical imaging field to include radiation safety training (i.e., ARRT RT (R)). AND Received a minimum of at least</p>		
<p><b>WAC 246-226-090 Periodic CT Performance Evaluations and Quality Control.</b></p>	<p>(1) A medical physicist shall complete an initial performance evaluation of the CT scanner before use on human patients, annually thereafter, and after any change or replacement of components which, in the opinion of the qualified medical physicist, could cause a change in the radiation output or image quality.</p> <p>(a) The performance evaluation shall include the following, as a minimum:</p> <ul style="list-style-type: none"> <li>(i) Alignment light accuracy.</li> <li>(ii) Alignment of table to gantry.</li> <li>(iii) Table and gantry tilt.</li> <li>(iv) Slice localization from scanned projection radiograph.</li> <li>(v) Table increment/travel accuracy.</li> <li>(vi) Slice thickness accuracy (Radiation Beam Width).</li> <li>(vii) Image quality, including the following: <ul style="list-style-type: none"> <li>(A) High-contrast resolution.</li> <li>(B) Low-contrast resolution.</li> <li>(C) Image uniformity.</li> <li>(D) Noise.</li> <li>(E) Artifact evaluation.</li> <li>(F) Spatial Resolution.</li> </ul> </li> <li>(viii) Gray Level Performance of CT Acquisition Display Monitors</li> <li>(ix) CT number uniformity, accuracy and linearity.</li> <li>(x) Dosimetry, including the following: <ul style="list-style-type: none"> <li>(Ai) Dose indicator such as computed tomography dose</li> </ul> </li> </ul>	<p>All facilities applying for accreditation or renewal must demonstrate compliance with ACR QC requirements by including a copy of the facility's most recent Annual CT System Performance Evaluation with their accreditation testing materials. The medical physicist must evaluate the performance of each CT unit at least annually.</p> <p><u>Physics tests required:</u></p> <ul style="list-style-type: none"> <li>-Review of Clinical Protocols</li> <li>-Scout Prescription and Alignment</li> <li>Light Accuracy</li> <li>-Image Thickness</li> <li>-Table Travel Accuracy</li> <li>-Radiation Beam Width</li> <li>-Low-Contrast Performance</li> <li>-Spatial Resolution</li> <li>-CT Number Accuracy</li> <li>-Artifact Evaluation</li> <li>-CT Number Uniformity</li> <li>-Dosimetry</li> <li>-Gray Level Performance of CT Acquisition Display Monitors</li> <li>-Other tests as required by state or local regulations</li> </ul>	<p>Annual system performance measures must be evaluated using an appropriate phantom(s), determined by the medical physicist or qualified expert. (Refer to Physicist Guidance Document in Appendix.)</p> <p>Annual system performance by a medical physicist or qualified expert must include the measurement and assessment of patient dose for representative examinations using CT dosimetry phantom(s) and instrumentation, in accordance with current professional standards and regulatory guidelines.</p> <p><u>Physics tests required:</u></p> <ul style="list-style-type: none"> <li>-Contrast Scale</li> <li>-Mean CT Number of Water</li> <li>-Linearity</li> <li>-Laser light alignment</li> <li>-Gantry tilt</li> <li>-Slice Localization</li> <li>-Table Incrementation</li> <li>-Slice Thickness</li> <li>-Image Quality</li> <li>-Image Display and Storage Devices</li> </ul>	<p>For hospitals that provide computed tomography (CT) services: At least annually, a medical physicist conducts a performance evaluation of all CT imaging equipment. The evaluation results, along with recommendations for correcting any problems identified, are documented. The evaluations include the use of phantoms to assess the following imaging metrics:</p> <ul style="list-style-type: none"> <li>- Image uniformity</li> <li>- Slice thickness accuracy</li> <li>- Slice position accuracy</li> <li>- High-contrast resolution</li> <li>- Low-contrast resolution</li> <li>- Geometric or distance accuracy</li> <li>- CT number accuracy and uniformity</li> <li>- Artifact evaluation</li> </ul>	<p>Annual physics evaluation of CT imaging modalities means testing that is performed on the CT imaging system by a qualified medical physicist and that includes at a minimum the following factors:</p> <ol style="list-style-type: none"> <li>1. CT number accuracy</li> <li>2. Slice thickness verification</li> <li>3. CT number uniformity</li> <li>4. CT noise measurement</li> <li>5. High contrast spatial resolution</li> <li>6. Low contrast detectability</li> <li>7. Review of the site's CT quality assurance program.</li> <li>8. <i>Patient</i> radiation dose for clinically utilized scans</li> </ol> <p><i>Imaging providers</i> must submit the following to meet the CT physics review requirements:</p> <ol style="list-style-type: none"> <li>1. Submission of the most recent <i>medical physics</i> report for each <i>imaging system</i> under accreditation review (must be within the past 12 months).</li> <li>2. Completed site <i>CT</i> protocol data for each <i>imaging system</i> for the</li> </ol>

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	<p>index (CTDI<sub>vol</sub>).</p> <p>(B) Patient radiation dose for representative examinations.</p> <p>(xi) Safety evaluation, including the following:</p> <p>(A) Visual inspection.</p> <p>(B) Audible and visual signals.</p> <p>(C) Posting requirements.</p> <p>(D) Scattered radiation measurements.</p> <p>(xii) Review of the ongoing quality control program, including test results and corrective action.</p> <p>(xiii) Review of Clinical Protocols</p> <p>(b) A calibrated dosimetry system shall be used to measure the radiation output of a CT scanner. Calibration of the dosimetry system shall be within the preceding 24 months and shall be traceable to a national standard as specified in WAC 246-220-010(19).</p>		-Safety Analysis		<p>procedures specified, containing the <i>patient</i> radiation dose information, especially dose length product (DLP) and CT dose index (CTDI) information necessary for <i>medical physicist's</i> dose evaluation of <i>site's</i> protocols.</p> <p>3. <i>Phantom images</i> used for the annual physics report.</p> <p>a. <i>Phantom</i> imaged with the typical adult abdomen protocol.</p> <p>b. <i>Phantom</i> imaged with the typical adult head protocol.</p> <p>c. <i>Phantom</i> imaged with the typical pediatric abdomen protocol.</p> <p>d. <i>Phantom</i> imaged with the typical pediatric head protocol.</p> <p>4. Examples of the examinations of an anatomic part specified by RadSite through a random selection process.</p> <p>5. The protocol the applicant used to produce the submitted images must match the <i>site's</i> actual CT protocol review sheet.</p> <p>The <i>patient</i> radiation dose report for each exam.</p>
<p><b>WAC 246-226-090 Periodic CT Performance Evaluations and Quality Control.</b></p>	<p>(c) CT dosimetry phantom(s) shall be used in determining the radiation output of a CT x-ray system. Such phantom(s) shall meet the following specifications and conditions of use:</p> <p>(i) CT dosimetry phantom(s) shall be right circular cylinders of polymethyl methacrylate of density 1.19 plus or minus 0.01 grams per cubic centimeter. The phantom(s) shall be at least 14 centimeters in length and shall have diameters of 32.0 centimeters for testing CT x-ray systems designed to image any section of the body and 16.0 centimeters for systems designed to image the head or for whole body scanners operated in the head scanning mode;</p> <p>(ii) CT dosimetry phantom(s) shall provide means for the placement of a dosimeter(s) along the axis of rotation and along a line parallel to the axis of rotation 1.0 centimeter from the outer surface and within the phantom. Means for the placement of dosimeters or alignment devices at other locations may be provided.</p> <p>(iii) Any effects on the doses measured due to the removal of phantom material to accommodate dosimeters shall be accounted for through appropriate corrections to the reported data or included in the statement of maximum deviation for the values obtained using the phantom;</p>	<p>CT unit at your facility. Using these CTDI measurements, your physicist will be able to calculate various descriptors of dose for your adult head, pediatric head (1 year old), pediatric abdomen (5 year old, ~40 lbs.), and adult abdomen examinations (depending on the modules and patient types performed on that unit).</p>	<p>CT Dosimetry Reports for all scanners, including volume CT (VCT) or cone-beam CT (CBCT) scanners, must include:</p> <p>a. Measurements of exposure, and calculations of dose or dose index (or other appropriate dosimetry metric) which include comparison with some applicable reference standard, using the same units as the reference standard. The report must be clear about whether the results are acceptable, and identify corrective actions if the results are not acceptable.</p> <p>b. Dosimetry should be in units of pitch-corrected CTDI, point dose at the central ray, or MSAD for typical clinical protocols. The clinical protocol factors must be listed.</p> <p>c. Although CTDI is not rigorously defined for VCT or CBCT scanners, CTDI is also not rigorously defined for multislice CT scanner with beam thickness more than 1.0 cm. While</p>		

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	<p>(iv) All dose measurements shall be performed with the CT dosimetry phantom placed on the patient couch or support device without additional attenuation materials present.</p> <p>(v) The dose profile along the center axis of the CT dosimetry phantom for the minimum, maximum, and midrange values of the nominal tomographic section thickness used by the registrant shall be measurable. Where less than 3 nominal tomographic thicknesses can be selected, the dose profile determination shall be performed for each available nominal tomographic section thickness;</p> <p>(vi) The CTDI along the two axes specified in WAC 246-226-090 (4)(b) shall be measured. The CT dosimetry phantom shall be oriented so that the measurement point 1.0 centimeter from the outer surface and within the phantom is in the same angular position within the gantry as the point of maximum surface CTDI identified. The CT conditions of operation shall correspond to typical values used by the registrant. For the purpose of determining the CTDI, the manufacturer's statement as to the nominal tomographic section thickness for that particular system may be utilized</p>		<p>imperfect, CTDI is the only metric for which reference standards currently exist. If possible, VCT or CBCT systems should be configured to use a z-axis collimation that is less than the length of the pencil chamber (if such a chamber is used). For example, temporal bone imaging protocols found on ENT scanners often meet this criterion. As new techniques for CT dosimetry are published, more rigorous methods should be used.</p> <p>d. The report must identify the phantom and radiation detection system used.</p>		
<p><b>WAC 246-226-090 Periodic CT Performance Evaluations and Quality Control.</b></p>	<p>(2) A CT facility shall establish and implement a quality control program under the supervision of the medical physicist.</p> <p>(a) The documented program shall include, but not be limited to, all of the following:</p> <ul style="list-style-type: none"> <li>(i) Water CT Number and Standard Deviation – Daily</li> <li>(ii) Artifact Evaluation – Daily</li> <li>(iii) Wet Laser Printer Quality Control – Weekly</li> <li>(iv) Visual Checklist – Monthly</li> <li>(v) Dry Laser Printer Quality Control – Monthly</li> <li>(vi) Display Monitors Quality Control – Monthly</li> </ul> <p>(b) Evaluations and tests shall be performed following written procedures and methods found in the 2012 ACR CT Quality Control Manual. Corrective action shall be taken and documented according to instructions provided by the medical physicist if the results of an evaluation or test fall outside the control limits.</p> <p>(c) The medical physicist shall determine the frequency of each test and who may perform the test. An on-site CT radiologic technologist shall be identified to be responsible for the ongoing quality control testing. The tests shall be performed by this technologist or by other personnel qualified by training and experience following written procedures and methods established by the ACR CT manual and/or the medical physicist.</p>	<p>A continuous quality control (QC) program must be established for all CT units with the assistance of a qualified medical physicist. An on-site radiological technologist should be identified to be responsible for conducting routine quality control.</p> <p><u>QC tests included:</u></p> <ul style="list-style-type: none"> <li>-Water CT Number &amp; Standard Deviation- Daily</li> <li>-Artifact Evaluation- Daily</li> <li>-Wet Laser Printer Quality Control- Weekly (if applicable)</li> <li>-Visual Checklist- Monthly</li> <li>-Dry Laser Printer Quality Control- Monthly (if applicable)</li> <li>-Display Monitor Quality Control- Monthly</li> </ul>	<p>Routine (daily and periodic) QC tests are to be conducted according to performance measurements as outlined by the manufacturer. Federal standards require that CT manufacturers provide QC testing instructions, recommended testing frequency, a QC test phantom appropriate for the scanner and acceptable variations in parameter measurements.</p> <p>Daily QC tests must include (where appropriate to the scanner):</p> <ul style="list-style-type: none"> <li>-mean CT number for water of representative components;</li> <li>-mean CT number of other reference material;</li> <li>-image noise;</li> <li>-artifact assessment;</li> </ul> <p><b>and</b></p> <ul style="list-style-type: none"> <li>-proper function of audible and visual patient safety equipment.</li> </ul>		<p>Each <i>imaging system</i> shall demonstrate that they meet the applicable manufacturer's recommendations for quality control testing:</p> <p>For <i>CT imaging systems</i> (if applicable):</p> <ul style="list-style-type: none"> <li>A. Air Calibrations</li> <li>B. Slice Thickness</li> <li>C. High-contrast (spatial) resolution</li> <li>D. Low-contrast resolution</li> <li>E. Noise level</li> <li>F. Artifact-free status</li> <li>G. CT number accuracy and linearity</li> </ul> <p>The applicant must either:</p> <ol style="list-style-type: none"> <li>1) submit any policy describing <i>imaging provider's imaging system</i> maintenance program; <b>OR</b></li> <li>2) submit a written narrative explaining <i>imaging provider's</i> existing approach to its <i>quality control program</i> to ensure appropriate and safe use of <i>ADI services</i> for <i>patients</i>.</li> </ol>

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	<p>(3) The medical physicist shall prepare a report that includes all of the following:</p> <ul style="list-style-type: none"> <li>(a) A summary of the performance evaluation required under subrule (1) of this section.</li> <li>(b) Recommendations for necessary improvements, if any.</li> <li>(c) Type of radiation detection instrument or system used, including the date of the last calibration.</li> </ul> <p>(4) The report required under (1) of this section shall be provided to the CT facility and the department within 30 days after completion of the evaluation.</p>		<p>Periodic QC tests must include all from Section 1.3B and the following (where appropriate to the scanner):</p> <ul style="list-style-type: none"> <li>-spatial resolution for high and low contrast objects;</li> <li>-image uniformity;</li> <li>-slice thickness;</li> <li>-alignment light accuracy;</li> <li>-image display and storage devices;</li> <li><b>and</b></li> <li>-air calibration, if required.</li> </ul>		
<p><b>WAC 246-226-100 Required Records and Reports.</b></p>	<p>(1) Information shall be available at the control panel regarding the operation and calibration of the system. Such information shall include the following:</p> <ul style="list-style-type: none"> <li>(a) Dates of the latest calibration and spot checks and the location within the facility where the results of those tests may be obtained;</li> <li>(b) Instructions on the use of the CT dosimetry phantom(s) including a schedule of spot checks appropriate for the system, allowable variations for the indicated parameters, and the results of at least the most recent spot checks conducted on the system;</li> <li>(c) The distance in millimeters between the tomographic plane and the reference plane if a reference plane is utilized; and</li> <li>(d) A current technique chart available at the control panel which specifies for each routine examination the CT conditions of operation and the number of scans per examination.</li> </ul> <p>(2) If a performance test or spot check of the CT x-ray system identifies that a system operating parameter has exceeded a tolerance established by the qualified medical physicist, use of the CT x-ray system on patients shall be limited to those uses permitted by established written instructions of the qualified medical physicist.</p>		<p>All QC results must be documented and reviewed.</p> <p>A written report of the acceptance tests must be maintained at the CT facility. The report must be signed and dated by the person performing the tests.</p> <p>A complete log of PM, quality control tests and service records for all CT scanners and ancillary equipment must be maintained at the CT facility. The reports must be signed and dated by the person(s) performing the tests.</p> <p>Results of all QC tests must be documented, archived and stored on film, in digital format, or on other suitable media according to state requirements, if applicable.</p>		
<p><b>WAC 246-226-100 Required Records and Reports.</b></p>	<p>(3) A CT facility shall maintain these additional records and reports and shall make them available for review by the department as follows:</p> <ul style="list-style-type: none"> <li>(a) Records documenting the qualifications of all personnel who worked</li> </ul>	<p>All interpreting physicians, medical physicists and technologists working in CT (including part-time and locum tenens staff) must meet and</p>			<p>The <i>imaging provider</i> shall ensure that all <i>imaging practitioners</i> are qualified to carry out their respective job functions by:</p>

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	<p>at the facility as an operator or medical physicist. Records of personnel no longer employed by the CT facility shall be kept on file until the next inspection following the employee's termination has been completed and the department has determined that the facility is in compliance with the CT personnel requirements.</p> <p>(b) A report of a CT adverse health event required under WAC 246-226-070 shall be maintained on file for at least 7 years.</p> <p>(c) Initial and annual medical physicist performance evaluation reports required under WAC 246-226-090 shall be maintained on file for at least 5 years.</p>	document specific requirements in order for their facility to be accredited by the ACR.			<p>Verifying the current credentials of all <i>imaging practitioners</i> through primary and secondary source verification upon hire, including current <i>license(s)</i> or <i>credentials</i>, and history of licensure in all jurisdictions in which the <i>practitioners</i> has credentials</p> <p>The verification process for <i>imaging practitioners</i> shall include at least:</p> <p>A. History of education, professional training, licensure, certifications, and <i>board certification</i> status;</p> <p>B. Primary verification of credentials from granting institutions covering state licensing boards, specialty certification boards (if applicable), and the highest level of education;</p>
WAC 246-226-100 Required Records and Reports.	(d) Records of the results from the ongoing quality control evaluation required under WAC 246-226-110 shall be maintained on file for at least 2 years.				
WAC 246-226-110 Requirements for Low Power (5 kW or less) CT Scanners and Conebeam Scanners.	<p><b><i>Registrants using low power CT scanners and conebeam scanners exclusively are exempt from the requirements of this chapter, except as follows:</i></b></p> <p><b><i>(1) Radiation safety, equipment design and shielding standards established in chapter 246-225 WAC shall apply, and</i></b></p> <p><b><i>(2) Manufacturer's records of preventive maintenance and repair shall be retained for 2 years.</i></b></p>				
WAC 246-226-120 Requirements for positron emission tomography (PET/CT) or single photon emission computed tomography (SPECT/CT) systems.	<p><b><i>Registrants using PET/CT or SPECT/CT systems exclusively are exempt from the requirements of this chapter, except as follows:</i></b></p> <p><b><i>(1) Radiation safety, equipment design and shielding standards established in chapter 246-225 WAC shall apply, and</i></b></p> <p><b><i>(2) Registrants shall have a medical physicist perform an annual performance and quality control evaluation of the CT component and provide a copy of such evaluation to the department along with any recommendations to the facility. The physicist shall provide this report in writing within 30 days of the evaluation and the registrant shall retain it for inspection by the Department for 3 years.</i></b></p>			<p>For hospitals that provide positron emission tomography (PET) or nuclear medicine (NM) services:</p> <p>At least annually, a medical physicist conducts a performance evaluation of all imaging equipment. The evaluation results, along with recommendations for correcting any problems identified, are documented. The evaluations include the use of phantoms to assess the following imaging metrics:</p> <ul style="list-style-type: none"> <li>- Image uniformity</li> <li>- Extrinsic or system uniformity</li> <li>- Intrinsic or system spatial resolution</li> <li>- Low-contrast resolution</li> <li>- Sensitivity</li> <li>- Energy resolution</li> </ul>	<p>Positron Emission Tomography (PET) Images:</p> <p>A. Physics Testing</p> <p>1. Annual <i>Medical Physics</i> Evaluation of <i>Nuclear Medicine</i> modalities means testing that is performed on the <i>PET</i> unit by a qualified medical physicist and that includes at a minimum the following factors:</p> <ul style="list-style-type: none"> <li>a. Spatial Resolution</li> <li>b. Uniformity</li> <li>c. Contrast Resolution</li> <li>d. SUV Evaluation</li> <li>e. Review of <i>Nuclear Medicine</i> Technologist's Quality Control Tests</li> </ul> <p><i>Single Photon Emission Computed Tomography (SPECT) Images:</i></p>

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				<ul style="list-style-type: none"> <li>- Count-rate performance</li> <li>- Artifact evaluation</li> </ul>	<p>A. Physics Testing</p> <ol style="list-style-type: none"> <li>1. Annual Physics Evaluation of <i>Nuclear Medicine</i> modalities means testing that is performed on the Nuclear Medicine unit by a qualified medical physicist and that includes at a minimum the following factors:               <ol style="list-style-type: none"> <li>a. Intrinsic Uniformity</li> <li>b. System Uniformity</li> <li>c. Intrinsic Spatial Resolution</li> <li>d. System Spatial Resolution</li> <li>e. Count Rate Sensitivity</li> <li>f. Visual Inspection of Camera</li> <li>g. Center of Rotation</li> <li>h. Review of <i>Nuclear Medicine</i> Technologist's <i>Quality Control</i> Tests</li> </ol> </li> </ol>
<p>WAC 246-226-130 Requirements for CT simulators used exclusively for treatment planning purposes in conjunction with a megavoltage radiation therapy unit.</p>	<p><i>Registrants using CT simulators exclusively for treatment planning purposes in conjunction with a megavoltage radiation therapy unit are exempt from the requirements of this chapter, except as follows:</i></p> <ol style="list-style-type: none"> <li><i>(1) Radiation safety, equipment design and shielding standards established in chapter 246-225 WAC shall apply, and</i></li> <li><i>(2) Registrants shall have a medical physicist perform an annual performance and quality control evaluation of the CT system and provide a copy of such evaluation to the department along with any recommendations to the facility. The physicist shall provide this report in writing within 30 days of the evaluation and the registrant shall retain it for inspection by the Department for 3 years.</i></li> </ol>				
<p>WAC 246-226-140 Requirements for mobile CT scanners used only for head and neck imaging.</p>	<ol style="list-style-type: none"> <li><i>(1) Radiation safety, equipment design and shielding standards established in chapter 246-225 WAC shall apply, and</i></li> <li><i>2) Registrants shall have a medical physicist perform an annual performance and quality control evaluation of the CT system and provide a copy of such evaluation to the department along with any recommendations to the facility. The physicist shall provide this report in writing within 30 days of the evaluation and the registrant shall retain it for inspection by the Department for 3 years.</i></li> </ol>				<p>The <i>imaging provider</i> shall provide information on all <i>mobile imaging systems</i> that demonstrates the proper installation, use and maintenance of <i>mobile imaging systems</i> according to manufacturer recommendations as well as compliance with all federal, state and local requirements.</p> <p>The <i>imaging provider</i> shall follow the same safety procedures when using <i>mobile imaging systems</i> as it does with <i>imaging systems</i> at stationary locations, as well as additional pertinent requirements associated with the <i>mobile imaging system's</i> relocation abilities and frequencies. This includes but is not limited to</p>

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					<p>these items:  Implementing <i>quality control</i> procedures at each new location to set up and run operations, including procedures to address safe power hook up, machine recalibration and temperature monitoring;  Using properly <i>licensed</i> and professional staff necessary to support proper use, as defined below in <i>Standards</i> Sections 3 and 4;</p>