ACR CT Accreditation

Frequently Asked Questions

Application - General

Q. My facility has never applied for accreditation before, and would like to become ACR Accredited for Computed Tomography. How do we get started?
A. Start by reading the following documents, available on the ACR website:
   • The Diagnostic Modality Accreditation Program Overview
   • The ACR CT Accreditation Program Requirements
   • The ACR CT Accreditation Clinical Image Quality Guide
   • The ACR CT Accreditation Testing Instructions
   • The ACR CT Accreditation Phantom Testing Instructions
   After reading these documents, and checking your protocols, you can apply online here: https://acredit.acr.org

Q. Will CT accreditation become mandatory?
A. Currently, the ACR CT Accreditation Program is a voluntary process. However, effective January 1, 2012 all providers that bill for CT, MRI, breast MRI, nuclear medicine and PET under part B of the Medicare physician fee schedule must be accredited in order to receive reimbursement for the technical component from Medicare.

Q. Is my hospital required to be accredited under the new MIPPA legislation?
A. No. Part B of the Medicare physician fee schedule is for outpatient facilities.

Q. How many people at my facility are involved in the accreditation process?
A. Everyone at your facility is involved somewhat with accreditation, and should at least be aware of your facility’s participation. You should have one person who is “in charge” of organizing the project. You should have a “core team” made up of the following personnel:
   • Your lead CT technologist will be the main person we contact if necessary. This should be the primary person who completes the online accreditation application and testing package, and is the technologist contact listed on your application
   • Your CT supervising physician is the interpreting physician responsible for your CT protocols, and approves all aspects of the application and testing materials before you submit them to ACR for review.
   • Your medical physicist should be responsible for the annual system performance evaluation, supervising your facility’s QC and performing the dosimetry portion of your phantom submission. We also strongly recommend that they are closely involved with the Gammex phantom portion of your testing materials submission, and assist the supervising physician and lead technologist with your routine clinical protocols to help ensure the lowest technique possible while maintaining good image quality.
   • Your administrative contact, such as manager, director, etc. will help organize the members of your “core team” and ensure that everyone on the team has the resources necessary to successfully complete your accreditation process.
Q. How long does the accreditation process take?
A. On average, the process takes 4 to 6 months from start to finish.

Q. How much time do I have to return the testing package to the ACR?
A. The testing materials are due 45 days from the date the testing materials were mailed to your facility. The time frame is based on calendar days. After you apply for accreditation, you will receive all of the testing materials electronically. The 45 day timeframe is to make sure your facility gets through the accreditation process in a timely manner. If your facility needs extra time, please call an ACR accreditation representative at (800) 770-0145 and ask for an extension.

Q. Do sites have to submit images within a certain time frame?
A. Sites are given 45 days to complete the testing portion of the accreditation process. Failure to comply with this time frame will result in your application being made inactive. Ideally, the clinical and phantom images should be obtained in the same two month period. However, it is understood that this may be difficult in many circumstances. Therefore, images will be acceptable outside of that time frame as long as they do not predate the application by more than 6 months.

Q. Do facilities have to undergo a site survey as part of the accreditation process?
A. The accreditation process is conducted primarily by mail. The ACR and/or CMS will conduct site visits without prior notification to validate maintenance of accreditation criteria within the three year accreditation period.

Q. May we use a model or a volunteer to obtain clinical images to submit for accreditation?
A. No. Any clinical image submitted for accreditation review must be of an actual patient who needed the examination. Use of volunteers or models, including staff from your facility is prohibited and may result in withholding, denial or revocation of accreditation. Attempting to “pass off” images taken from a volunteer or model as clinical images from a patient may constitute fraud.

Q. What happens if I fail?
A. You will only have to repeat the examinations that are deficient and not have to repeat the whole entire process again. The fee will be $1300/scanner for clinical or phantom images and $2100/scanner if you have to repeat both. You will have 30 days to submit the repeated images.

Q. My facility did not pass accreditation. May we appeal the decision? If so, what's involved?
A. Yes. Facilities that receive a deficiency or a failure may appeal the determination in writing within 15 days of the date of the final report. A letter describing your reason for appealing must be submitted. Only those images from the original exam will be considered during the appeal evaluation. These will be forwarded to an arbitrator (a reviewer who did not participate in the initial review) with a copy of the previous reviews and the appeal letter written by the facility. No other images will be sent to the reviewer for consideration in the evaluation. The arbitrator’s determination will be final.

Q. We recently appealed an adverse accreditation decision. When should we receive the results of the appeal?
A. You should receive the appeal results within 30 to 45 days of the date all required appeal materials were received by the ACR.

Q. We did not pass accreditation because our technologists selected and submitted the wrong images. May we appeal the decision and submit new cases?
A. Although you may appeal the decision, you may not submit new cases. During accreditation review, the ACR reviewers assume that the submitted cases were reviewed by the modality’s supervising physician (as specified in the Testing Instructions) and are examples of your best work. Consequently, during an appeal, only the original images will be considered.

Q. We did not pass accreditation because our technologist did not submit all required images and provided insufficient information with the images that were submitted. May we appeal the decision and submit the rest of the required information?
A. You may appeal the decision; however, you may only submit the original images. If some sequences from the original exam were not included you may be able to submit those sequences. Please call the Diagnostic Modality Accreditation Information Line at (800) 770-0145 for further guidance on your specific situation.

Q. Can the clinical and phantom images be submitted in a digital format?
A. All sites are now required to upload their images for accreditation. Instructions for electronic upload can be found in the “Submit Data/Upload Images” section on the CT Accreditation page. If your facility has a technical limitation that prohibits you from uploading images electronically, please contact ACR staff at 800-770-0145 for assistance.

Q. Does a physician have to be present during injection of intravascular contrast media?
A. A properly certified and/or licensed healthcare professional may perform the injection so long as a radiologist or his or her physician designee is present and immediately available to furnish assistance and direction throughout the performance of the procedure. The physician need not be in the same room.

Moved Facilities/Adding Units/Adding Modules

Q. How does a facility add a new unit to their existing accreditation?
A. If you need to add another unit to the same location, please go to “My Modalities” and click the link to “Units/Modules”. Click the link to “Add New Unit” under the list of units; this will add the unit to the Modality ID for that location. Note: If there is less than 13 months remaining on the accreditation, the facility will start an early renewal. All units currently performing diagnostic testing will be included on the application. Early renewal requires full application fees and complete phantom and clinical testing for each unit. The expiration date for all units will be three years from the current expiration date.

If there is more than 13 months remaining on the accreditation, the facility has the option to submit a new unit addendum, or a new unit reinstate application.

- New Unit Addendum: The facility will need to submit complete phantom and clinical testing for the new unit. The facility will pay a reduced accreditation fee. The added unit(s) will receive the same expiration date as currently approved units for this modality.

- New Unit Reinstate: The facility will submit complete phantom and clinical testing for all active units. Withdrawn units may also be removed. This application requires full application fees. The expiration date will be three years from the first approval report date.
Q. How do we add a module/patient type to our existing application?
A. Log on to your ACRedit home page at https://acredit.acr.org, click on “my modalities” and click on “units”. Once you click on units, click on the add module/patient type link associated with the unit you wish to add the module/patient type to.

Q. We will be moving our CT facility to a new address. Do I need to provide any information to the ACR?
A. Yes. Log on to your ACRedit home page at https://acredit.acr.org and then click on “my modalities”. Click on the “modality details” link for the site you wish to relocate, and click the “change” button next to the location address. The online accreditation system will prompt you for additional information. Please be advised that additional testing and fees may be associated with a relocation.

Phantom Submission, Dose and Physics Topics

Q. Where can I find information regarding reducing doses for pediatric and small adult patients?
A. 
   a. The Alliance for Radiation Safety in Pediatric Imaging has a wonderful website, Image Gently that has information on keeping radiation doses as low as possible for pediatric patients. The website is located here: http://www.pedrad.org/associations/5364/ig/
   b. The FDA sent out a public health notification on "Reducing Radiation Risk from Computed Tomography for Pediatric and Small Adult Patients" on November 2, 2001. This notification can be found on the FDA Web site at http://www.fda.gov/cdrh/safety/110201-ct.html.

Q. Is there an ACR CT Accreditation designated phantom? If so, when should one be ordered?
A. Yes, it is available to purchase through Gammex RMI. You can access the phantom order form from the www.acr.org website under the CT Accreditation page. Please make sure that you order your phantom as soon as possible after you receive your CTAP number (assigned to you with your initial application) to allow ample time for shipping and completion of all testing materials within the allotted time frame provided by the ACR.

Q. What will be the requirements for phantom testing?
A. Phantom images and dose measurements will be required from every unit being accredited, depending on the use of the unit. Using the Gammex 464 phantom, and Computed Tomography Dose Index (CTDI) phantoms, a medical physicist must perform dose measurements on every scanner that you will be submitting for accreditation. Using these CTDI measurements, your physicist will be able to calculate various descriptors of dose for your adult head, pediatric head (1 y.o.), pediatric abdomen (5 y.o., approx. 40 lbs) and adult abdomen examinations in correlation to your use of the scanner and your application.

Q. Do you need a Medical Physicist Survey for each scanner?
A. Yes, a Medical Physicist Survey must be done yearly for each scanner being accredited. However, the site does not have to send the report to the ACR.
Q. Can I use “Air kerma” for the dose measurements on the phantom portion of my accreditation submission?
A. No. The dose forms that you will use as part of the online testing package are calculated using exposure readings, not air kerma. If your meter reads out air kerma, you must either change your meter settings or divide by 0.876 before entering the measurements into the data form.

Q. The Aquilion One in Volume Mode sometimes give me some bleed-through of the CT number module into the low contrast module, how do I address this?
A. This effect can be eliminated by applying VCOR. VCOR lets the reconstruction engine know the object on the table is not a patient, but rather an artificial construct about which no clinical assumptions can be made. VCOR can be activated by your service engineer or via a dropdown menu, depending on software version.

Q. Our scanner has several protocols that are done in a single gantry rotation, with no table movement, and which use collimations greater than 100mm, i.e. the length of my ion chamber. How do I calculate the CTDIvol for these protocols?
For single rotation protocols with clinical collimations greater than 100mm (or the ion chamber length), e.g. 320 x 0.5mm, make the physical dose measurement in the same way you ordinarily would by centering the phantom/ion chamber and performing an axial rotation using the actual clinical technique and collimation. In this situation the X-ray beam will exceed the length of the chamber but this will be taken in account in the CTDI field on the dose form in your online testing package (and the generic excel form available on the ACR CT Accreditation Testing and QC forms webpage) to avoid an inaccurately low CTDIvol. For collimations that equal or exceed 100mm (or the ion chamber length), the CTDIvol should be determined by using 100mm (or the ion chamber length) in lieu of NxT in the calculation. Example for a 100mm ion chamber: When filling out the CTDI calculation form, any N and T that give a product of 100 would be acceptable, i.e. N =1 and T = 100mm. The table increment should also be set 100mm (or the ion chamber length).

Q. Our scanner has helical protocols which use collimations greater than 100mm, i.e. the length of my ion chamber. How do I calculate the CTDIvol for these protocols?
For helical protocols with clinical collimations greater than 100mm, e.g. 256 x 0.625mm, make the physical dose measurement in the same way you ordinarily would by centering the phantom/ion chamber and performing an axial rotation using the axial equivalent of the clinical helical technique and collimation. In this situation the X-ray beam will exceed the length of the chamber but this will be taken in account in the CTDI field on the dose form in your online testing package (and the generic excel form available on the ACR CT Accreditation Testing and QC forms webpage) to avoid an inaccurately low CTDIvol. For collimations that equal or exceed 100mm (or the ion chamber length), the CTDIvol should be determined by using 100mm (or the ion chamber length) in lieu of NxT in the calculation. The table speed (I) should be changed to yield the same pitch value used clinically. Example for a 100mm ion chamber: If the helical scan uses N = 256, T = 0.625mm, and pitch = 0.75, the following should be input into the CTDI calculation form: N = 1, T = 100, and I = N x T x pitch = 1 x 100 x 0.75 = 75 mm/rotation.

Q. My scanner uses a “flying-focal spot”. How do I enter Nmax in the phantom data form and the N values in the clinical protocols?
A. Nmax is the maximum number of tomographic sections that can be acquired in a single rotation. N = the number of actual data channels used. For example, a Siemens Somatom Sensation 64 scanner utilizes a flying focal spot and has an Nmax = 64. However when a site uses the
The collimation setting identified on the scanner as “64x0.6” (for example, for the clinical adult abdomen protocol), then N = 32 and T = 0.6 mm. because the 32 actual detectors are used and sampled twice via the flying focal spot. Another example is the Siemens Definition Flash, which also utilizes a flying focal spot. For this scanner, Nmax=128 and the collimation setting on the scanner is identified as “128x0.6”, but the actual number of data channels is 64, so N=64 and T=0.6 in the clinical protocol table (in this scanner, 64 actual detector rows are used and sampled twice via the flying focal spot in a manner similar to the scanner above). Other scanners use “flying focal spot” technology and should be handled similarly.

For dosimetry testing, it is the radiation beam width that is needed for recording in the dosimetry spreadsheet and two possible solutions may arise. (1) If the scanner allows the same detector configuration in both axial (sequential) mode as well as helical scan, then the value of N and T described above should be used. The table increment in the dosimeter spreadsheet must be adjusted to yield the proper clinical pitch as indicated in the phantom data form. Please see the examples below; (2) if the scanner does not allow the same detector configuration in helical and axial (sequential) modes, then please see the discussion in the next FAQ.

**Example 1: Siemens Sensation 64 scanner**

Adult Abdomen Protocol: 120 kVp, 200 Quality Reference mAs, 64x0.6 mm collimation (using z-flying focal spot), pitch 1.0

In protocol table, use values: N=32, T=0.6 mm, I=19.2 mm/rotation

However, 32 x 0.6 mm is not allowed in sequential mode on this scanner, so for dosimetry testing, please see the next FAQ.

**Example 2: Siemens Definition Flash Scanner**

Adult Abdomen Protocol: 120 kVp, 200 Quality Reference mAs, 128x0.6 mm collimation (which uses z-flying focal spot), pitch 1.0

N=64, T=0.6 mm, I=38.4 mm/rotation

In this case, 128x0.6 mm is allowed in sequential mode, so no need to change settings for dosimetry:

N=64, T=0.6 mm, I=38.4 mm/rotation

**Q. How do I make CTDI measurements using a detector configuration that is not available in the axial mode?**

**A.** This situation arises when a scanner manufacturer limits the available scan modes. For example, some manufacturers simply do not allow an axial 64 x 0.6 mm detector configuration (where the outer images might suffer from considerable cone beam artifacts). This can make it difficult to perform CTDI measurements when 64 x 0.6 mm collimation is used for helical scans. Now there are fundamentally two options. The first is to use user tools specifically developed to assist in making axial CTDI measurements using clinically relevant parameters and detector configurations that might not be available in an axial (sequential) scan mode. One example is that Siemens has developed a “customer CTDI” measurement tool. This is available on Definition scanner models with software version VA34, VA40, or VA44, and Emotion or Sensation scanners with software version VB40. Instructions for use of the mode are included in the online operator manual (Life Card).

If this option is not available, then the user can perform the axial CTDI measurements using settings (including collimation) that are “as close as possible” to the clinical setting. The site should describe this situation as well as the settings chosen to perform the CTDI measurements. These new settings should be reported in the dosimetry spreadsheet with a note that they are different from those used clinically (and reported in the clinical protocol table). Please note that if collimation is changed for dosimetry testing purposes, then the table increment value (I) should also be changed to yield the same pitch testing value used clinically. An example is provided below.

**Example 1: Siemens Sensation 64 scanner**
Adult Abdomen Protocol: 120 kVp, 200 Quality Reference mAs, 64x0.6 mm collimation (using z-flying focal spot), pitch 1.0
In protocol table, use values: N=32, T=0.6 mm, I = 19.2 mm/rotation
However, 32 x 0.6 mm is not allowed in sequential mode on this scanner, so for dosimetry testing, there are two choices:
Option 1 –use the customer CTDI measurement tool if it is available on your scanner.
Option 2 - use settings that are “as close as possible” to the clinical setting, which in this case could be:
N=24, T=1.2 mm
With a Table feed (I) necessary to give same pitch (Pitch = 1.0), I=28.8 mm/rotation

Q. My scanner scans with a 420 degree tube rotation (an extra 1/6 of a rotation) for each axial scan for our head protocol. We use 200 mAs with a 1.0 second rotation time, however, the actual time for each scan is 1.167 seconds which makes the mA about 171. How should the scanning parameters be entered on the phantom data form and dose calculator spreadsheets?
A. If the scan is done in a 420 overscan mode, then record the rotation time as 1.167 seconds and the mA as 171.

Q. Our protocols include iterative reconstruction to reduce noise and ultimately allow us to use a reduced technique on our patient exams. How should this be used for the phantom scanning for accreditation?
A. If iterative reconstruction is used clinically, then it can be used on the phantom scanning. Tube current modulation should be turned off and iterative reconstruction should be noted as a “Dose Reduction Method” in the phantom scanning data form.

Q. When I look at the exposure time tag (0018, 1150) in the DICOM header of an image, I see a number that is some factor greater than the acquisition rotation time and it doesn’t correspond to the time for one complete gantry rotation. How should I report this and will reviewers think we used the wrong rotation time?
Some manufacturers use a value other than the time for one complete rotation in this particular DICOM tag (0018, 1150). Unfortunately, this is set at the factory and the user does not have control over this. You can check and see if the scanner reports the “revolution time” DICOM tag (0018,9305) as this is reported on an increasing number of scanners. If so, this can be pointed out to in your submission. ACR is making its CT reviewers aware of this potential discrepancy as well.

Q. My scanner passes the manufacturer’s QA specification for water calibration (e.g. water is 0 +/- 5 HU), but the CT number of some of the cylinders in module 1 of the ACR phantom are not within the appropriate range. What can I do to correct this situation without causing a failure due to poor testing procedures?
A. The ACR phantom can be scanned in the opposite direction (from section 4 toward section 1 instead of from section 1 to section 4). This will result in the phantom images appearing in the reverse order on the CD, but this will be acceptable. Alternatively, a water phantom or CTDI phantom can be positioned on the patient table in a manner that effectively extends the ACR phantom somewhat, and fills the air gap that causes the problem (see figure 1). The water or CTDI phantom may have to be raised a bit to match the ACR phantom height; anything that is not a major attenuator will serve as a shim (such as a few towels or folded up bed linens). In this case, the scan acquisition directions could be followed per the original instructions (from section 1 toward section 4). Additionally, phantom reviewers may use an image that is closest to Module 2,
further reducing the impact of the helical interpolation. If this is indicated, please put a note to this effect in with the CD so that the reviewer is alerted.

Q. My facility does not have a large poly disk available to perform artifact evaluation on the scan field of view (SFOV) as required? Is there an acceptable method to meet the requirement?

A. This approach provides a method to qualitatively evaluate the level of non-uniformities in the SFOV outside of the phantom FOV
   a. Taking care to center the phantom to the SFOV, perform the usual daily QC phantom scan using the smallest T allowed by the maximum NxT
   b. Perform artifact evaluation using ACR CT QC manual method to determine if there are potentially clinically significant artifacts over the phantom FOV (if artifacts are seen, use clinical image significance evaluation method below)
   c. After verifying the absence of such artifacts over the phantom FOV, at least monthly perform an air scan using a modified version of the daily QC protocol that uses the largest clinical SFOV available
   d. To evaluate the L SFOV images for potentially clinically significant artifacts outside of the phantom FOV, set a window width of approximately 100 HU and a window level of approximately -1000 HU
   e. Draw a 20 cm diameter ROI in the center of the image
   f. Review all images qualitatively comparing the level of visualized non-uniformities outside the ROI to that inside the ROI
   g. Consider a similar level of non-uniformities to be acceptable
   h. If there is an increased level of non-uniformities seen outside the ROI, review clinical scans to determine if artifacts are clinically significant
   i. Clinical scans reviewed should be of the large scan field of view using all typical reconstruction window and level settings

Q. The ACR now requests that facilities provide their Dose Notification values (mGy), as described by MITA Standard XR-25 (and included in XR-29), on the CT Phantom Site Scanning Data Form. Is this required for CT accreditation?

A. No, completion of Dose Notification values is not required for ACR CT Accreditation. The new Dose Notification values described by MITA XR-25 (and included in XR-29) are now requested in the phantom site scanning data form for informational purposes only and is intended to raise your facility’s awareness and understanding of this feature as it may apply to your scanner and protocol. XR-29 compliance is not a requirement of CT Accreditation. Therefore, this is an optional
field. Please visit the [ACR NEMA XR-29 (MITA Smart Dose) Standard Frequently Asked Questions](#) for further information on XR-29 and the CMS rule.

Q. The adult head, adult abdomen, pediatric head and pediatric abdomen dose calculation forms now include a field to enter CTDI$_{vol}$ reported by scanner (mGy) for the protocol entered into the phantom site scanning data form. Is this required? How do I obtain this value?

A. This is an optional field. When prescribing the phantom scans using the adult head, adult abdomen, pediatric head and pediatric abdomen protocols for ACR CT accreditation phantom testing, the scanner will report the expected CTDI$_{vol}$ for the respective protocol. This data may be entered into the dose calculation form and the database will calculate the percent difference between the calculated CTDI$_{vol}$ and the CTDI$_{vol}$ reported by the scanner. While this value is not scored as a part of accreditation, the percent difference should be less than 20%. Measured values not within 20% of the values reported by the scanner should be investigated. We recommend contacting your Qualified Medical Physicist (QMP) for assistance if needed. The CTDI$_{vol}$ reported by the scanner (mGy) and the percent difference between the calculated CTDI$_{vol}$ and the CTDI$_{vol}$ reported by the scanner are for informational purposes only, will not be evaluated by the reviewers and will not contribute to deficiencies at this time.

Q. The adult abdomen and pediatric abdomen dose calculation forms now include an SSDE for 35 and 18.5 cm water equivalent diameter (mGy). What is the purpose of this new calculation and how is it scored for accreditation?

A. Size specific dose estimate (SSDE) is a calculation that allows an estimation of patient dose based on CTDI$_{vol}$ and patient size. This value is for informational purposes only and will not be scored as a part of accreditation at this time. For more information on CT dose education and SSDE, please visit the [Alliance for Quality Computed Tomography Education Slides](#). Your Qualified Medical Physicist (QMP) may also refer to AAMP Reports 204 and 220.

Q. The pediatric abdomen (40-50 lb.) dose calculation for accreditation submission now provides a choice of a 16 or 32 cm phantom. How do I know which one is required for my scanner and how does this affect the CTDI$_{vol}$ reference values and pass/fail criteria for the pediatric abdomen protocol?

A. For pediatric abdomen (40-50 lb.) protocols, some CT scanners report CTDI$_{vol}$ using the 16 cm phantom, while others use the 32 cm phantom. The medical physicist should select the phantom (16 or 32 cm) that is used by the scanner to report CTDI$_{vol}$. For accreditation, the adjusted reference values and pass/fail criteria are as follows:

<table>
<thead>
<tr>
<th>Reference Values CTDI$_{vol}$ (mGy)</th>
<th>Pass/Fail Criteria CTDI$_{vol}$ (mGy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pediatric Abdomen (40-50 lb.) – 16 cm phantom (existing)</td>
<td>15</td>
</tr>
<tr>
<td>Pediatric Abdomen (40-50 lb.) – 32 cm phantom</td>
<td>7.5</td>
</tr>
</tbody>
</table>

Q: For the pediatric body CTDI measurement, if a site’s clinical protocol dictates the use of the 32 cm phantom with a Scan Field of View (SFOV) that limits the Display Field of View (DFOV) such that the entire phantom is not visualized, is that acceptable?
A: Images of the 32 cm phantom at these small SFOVs may be cut off and that is acceptable.

**Example:** For the pediatric body protocol on scanner A, the clinical protocol uses the small body SFOV. For this SFOV, the scanner reports CTDIvol using the 32 cm phantom (in accordance with IEC standards). However, when the phantom is scanned, the maximum DFOV is only 24 cm and the outer portion of the phantom is cutoff, leaving only the central 24 cm (and central hole) of the phantom visualized. Because the site is making the measurement using the correct clinical protocol (including the correct bowtie filter as dictated by the SFOV), the measurement will be correct and will also match what the manufacturer is using to report CTDIvol. Not visualizing the full phantom is acceptable.

**Example:** For the pediatric body protocol on scanner B, the clinical protocol uses the small body SFOV. However, for this scanner and this SFOV, the scanner reports CTDIvol using the 16 cm phantom. Therefore, the site uses the 16 cm phantom for its measurement and the entire phantom should be visualized. Again, because the site is making the measurement using the correct clinical protocol (including the correct bowtie filter as dictated by the SFOV) and the phantom size that matches what the manufacturer is using to report CTDIvol, the measurement will be correct and will also match that of the manufacturer. In this case, the entire phantom should be visualized and is acceptable.

Q. My scanner reports the pediatric abdomen protocol with a 32 cm phantom but my Qualified Medical Physicist (QMP) has already tested with a 16 cm phantom. Does my QMP need to rescan the pediatric abdomen dose phantom using a 32 cm phantom?

A. No. If the QMP scanned the 16 cm phantom, then ensure that the 16 cm phantom is selected in the pediatric abdomen dose calculation form. The phantom selected in the pediatric abdomen dose calculation form must match the scanned phantom pediatric abdomen dose images and resultant dose measurements.

Q. My site’s clinical protocols are acquired with an acquisition matrix greater than 512. The CNR for the ACR phantom images does not meet the required value for the respective protocol when using the clinical acquisition matrix. Should I use a 512 acquisition matrix, or is there CNR criteria for acquisition matrices greater than 512?

A. Submit two ACR Image Quality Phantom series for each protocol that uses an acquisition matrix greater than 512. Keeping all parameters the same, scan the phantom using both the 512 and 1024 matrices. The CNR will be scored based on the 512 matrix scan. The 1024 matrix scan will be used to validate proposed criteria. Contact the ACR CT Accreditation program to notify them that you will be submitting images with an acquisition matrix greater than 512.

Q. My facility uses dual energy protocols for one or more of the required ACR Phantom Image Quality and CTDI scans. What do I need to submit?

A. Contact the ACR CT Accreditation program to notify them that you will be submitting a dual energy submission. Instructions will be provided on how to submit the excel forms.

**Forms:**
The current online system forms do not accommodate dual energy phantom submissions at this time. Download and complete the CTAP Phantom Data/Dose Forms from [https://www.acraccreditation.org/Modalities/CT](https://www.acraccreditation.org/Modalities/CT).
Make sure to fill out all parameters using the CTAP Phantom Data/Dose Forms and submit it via email. Please modify as appropriate. Since there is not an area to upload additional information in the online system, you will need to forward any explanation/additional information by email, and it will be forwarded to the reviewers. The online forms must still be completed. The techniques for the higher energy can be entered in the online forms.

**ACR Image Quality Phantom Images:**
Scan the ACR phantom as per the testing instructions using the dual energy protocol. Submit the dual energy reconstruction used for interpretation. With regard to CT number accuracy, follow as per the testing instructions. Page 23 states, “If you are routinely using other than 120-130 kVp for the adult abdomen protocol and your CT numbers do not meet the criteria listed below, please submit an additional scan of module 1 using 120-130 kVp.”

**CTDI Images:**
For the dosimetry, it is recommended at this time to use a dual energy protocol in the axial mode. The dosimetry can be acquired in either a single scan or two scans (add CTDIs for each independent energy) depending on the available energy selection modes for axial scans.