

Texas Radiology Compliance Requirements

In June 2019 Texas x-ray rule [25 TAC §289.232\(j\)\(14\)](#) was updated. It now specifies that users of digital imaging acquisition systems shall follow quality assurance/quality control (QA/QC) protocol for digital imaging established by the manufacturer. If a protocol cannot be established by the manufacturer, it shall be developed and implemented by the registrant (dental office).

The QA/QC protocol, as developed and implemented by the registrant, shall include image quality testing for, but not limited to, spatial resolution, noise, artifacts and contrast by using a commercially purchased testing tool or an inanimate object of at least three varying densities (the penny/paper clip test doesn't check the box anymore for intraoral x-ray sensors).

NOTE: For now, the stapler test for panoramic x-rays is still allowable, so long as the same stapler is used for every test image (no variables/variations in testing). Users of CBCT machines should use the phantom provided by the manufacturer of the CBCT machine.

Additionally:

- Images shall be acquired with each x-ray image receptor at an interval not to exceed three months (at least quarterly).
- Test images shall be compared to previous test images to assess degradation of image quality.
- If a radiation machine or components of the digital imaging acquisition system require correction or repair following a quality test, the correction or repair shall begin within 30 days following the failure and the registrant shall perform or cause to be performed the correction or repair according to a designated plan. Correction or repair shall be completed no longer than 90 days from discovery unless authorized in writing by the agency.

The registrant shall include the QA/QC protocols established in its operating and safety procedures.

The registrant shall document the frequency at which the quality assurance/quality control protocol is performed. Documentation shall:

- include the date and initials of the individual completing the document and the images acquired; and
- be maintained and available at the authorized use location where performed for inspection by the agency.

The following steps outline the procedure:

- Place the step wedge with the steps facing up over a sensor and position the x-ray field over the step wedge.
- Take an exposure.
- Record the Date, Sensor Serial #, X-ray machine used, kVp, mA, Exposure time, and Source-to-Image Distance. This information will be necessary to conduct this test in the future.

- Save this image as the reference image for that x-ray sensor as proof of testing.
- Remember, you are testing the sensor, not the x-ray machine!

Once a quarter or any time that you suspect that there may be a problem with your x-ray system, create another image in the same manner as described above. Compare this image to the reference image.

Step wedge images look like a grayscale image with gradual changes from white/light to black/dark. If you notice a change in density (color) of "2 steps", you are alerted that there is a problem and corrective actions should be taken before your radiographs deteriorate in diagnostic quality.

NOTE: The actual step wedge you receive may not match the picture of the product and/or may have a different number of steps on it. Neither of these affect the testing process.

To learn more about managing a compliant radiation safety program, check out our Radiation and Laser/Radiation Safety Manuals! www.DentalCompliance.com 817-755-0035