

P+[®] Imaging System Readiness Testing for **Film Screen Systems**

"BY PERFORMING THIS TEST DAILY, PRIOR TO EXPOSING PATIENTS, YOU ARE HELPING ELIMINATE UNNECESSARY RADIATION EXPOSURE." STEVE R. AREY CRES,CBET

Instructions for plotting imaging system readiness tests on form ASP1001

- 1. Darkroom cleanliness:** Visually inspect the darkroom work surface and keep this area clean. Perform the film processor daily start up checklist. Check film entrance area for cleanliness. Place your initials in the block provided for that day.
- 2. Chemical levels:** Visually inspect processor chemical levels at the top of the drain weirs. Inspect the replenishment tanks levels are correct. Document this with your initials in the block provided for that day.
- 3. Developer Temperature:** Measure the developer temperature to confirm it is within (+/-) 1% of manufacturers specifications. Place an "x" on the plotting chart where the temperature was measured for that day. If the measured temperature falls outside of the control limits, corrective action should be taken.
- 4. Cassette number:** Ensure that warm-up procedures have been performed on the x-ray tube. Load a **numbered** cassette, used daily for patient exams and place the cassette in the table bucky tray. Record the cassette number in the chart block provided for that day. Center the tray using the collimator alignment light. Place the P+[®] on the table and center it in the light field at 40" SID. Collimate to the top edges of the P+[®], you should see an 8" shadow on the table top at the base of the phantom. Look at the **collimator dials** to see that they are pointed on 8" x 8" (+/- .8" or 2cm).
- 5. Density:** Expose the P+[®] phantom using your technique for an average adult, 23cm AP Lumbosacral L/S spine exam, which produces a background density in the phantom image of 1.3D (+/- .2D) When you have acquired a P+[®] phantom image with this optimal background density, write the technique factors (**kVp, maS**) in the blocks at the top right of your quality control chart. **Use this same technique each day prior to exposing patients** as you check your systems ability to resolve the objects in the phantom image.
- 6. Artifacts / noise:** Look over your phantom image for artifacts which should not be present. Any artifacts should be recorded by placing an "x" in the appropriate box for that day. Artifacts should be investigated to locate the source; cassettes, grids, film, mechanical parts in the table, film processing or darkroom film handling problems. Cassettes should be **numbered** and alternated to check for artifacts in all cassettes regularly.
- 7. High Contrast Sensitivity:** There are a total of five (5) **numbered line mesh patterns** which are machined inside of your P+[®] phantom. The mesh vary in sizes from 20 lines per inch (.8 lp/mm), 30 lines (1.18 lp/mm), 40 lines (1.57 lp/mm), 50 lines (1.96 lp/mm), to 60 lines per inch (2.36 lp/mm). Plot on the control chart the highest number of mesh visible in the phantom image for that day.
- 8. Low Contrast Sensitivity:** There are a total of **16 holes in groups of four (4)** machined inside of your P+[®] phantom. Plot on the control chart the total number of holes visible in your P+[®] phantom image for that day.

If any of the expected objects can not be identified, notify your service company for corrective action. This testing regimen **does not eliminate** the need for annual calibration services by a qualified and registered x-ray service engineer or medical radiation physicist. See page 2 for further information and cautions.