

Dental Darkroom Fog Test - Extraoral

Equipment needed

- Aluminum medical step wedge with at least 11 steps
- Loaded pan/ceph cassette
- A currently calibrated intraoral operatory
- Establish technique factors for the step wedge test (in the range of a posterior bite wing)
- Tape measure or yard stick
- Timer

Procedure

- Load a pan or cephalometric cassette under your normal Darkroom/glove box conditions.
- Take the loaded pan or cephalometric cassette into an intraoral room that is used routinely.
- Place the cassette on the floor.
- Place step wedge on top of the cassette. Make sure you know which direction the step wedge is placed, along the long or short axis of the cassette. This will be important in the next steps.
- The cassette should be placed on the floor with the tube at a distance of at least 40". This will provide enough distance from the tube to the cassette to allow the x-ray field to cover the entire step wedge.
- Note the orientation of the step wedge to the film and expose the step wedge and cassette using your established setting.
- Take the cassette into the darkroom or place in the glove box and use the same conditions that would be used for processing patient films.
- Remove the film from the cassette and cover half of the film lengthwise on the step wedge image with something that is light opaque.
- Start the 2 minute timer.
- In the darkroom: Stand back from the film to ensure your body is not shadowing the fog test film. Take the time to look around the darkroom for any potential light leaks or sources of unwanted light.

Procedure continued

- In the glove box test keep your hands in the cuffs and lean from the viewing window to ensure your body is not shadowing the viewing window. Evaluate the condition of the cuffs and any seals for potential light leaks.
- When the timer goes off, process the film as usual.
- Take the processed film and place a newspaper behind the step wedge image. Using the step you have established as your standard for the step wedge evaluation, review the density on the side of the film that was covered with the density on the side of the film that was uncovered. The difference in densities between the covered and uncovered side must be less than a one-step density difference.
- If the density is greater than one-step your fog test fails corrective action must be taken and another fog test must be performed to verify the corrective action was acceptable.
- Record the date, the results of the test (pass/fail), and save the film for state inspection.

Determining Fog's Source

Glove boxes

- If a daylight processor glove box fog test fails, try covering the viewing window filter when redoing the fog test to see if this is the source of fog. If that is the case, moving the processor to a different location or changing surrounding lighting conditions may help to remove the fogging conditions.
- Replace cuffs that are loose fitting.
- Glove boxes attached to table top processors may not seal properly. Place a flashlight in the glove box, close the cover and see if any light is coming out through the seal between the glove box and processor. If there is, light is also getting in during film processing.

Darkroom

- Repeating a fog test without the safelight on and the fog is removed, the safelight may need to be replaced or moved further away from the processor.
- Any light other than that from the safelight can potentially fog your patient films. Remove or completely cover any of these sources of unwanted light.
- Close cupboards or place items behind a curtain.
- Place a curtain covering the entire darkroom door entrance and use a curtain rod or hooks to move the curtain out of the way when film processing is not being performed.
- Tape around light leaks in the ceiling.
- Attach weather stripping around the darkroom door.



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