

Darkroom Conditions

X-Ray Facility Tips | March 2026

A clean darkroom will result in fewer artifacts from dust and dirt and reduces the amount of effort required for cleaning the cassettes and screens. The darkroom should be cleaned daily at the beginning of the workday before processing or handling any films. Fogging of film should also be prevented. The effect of fog (a dull, uniform optical density) on an x-ray film is usually subtle, but it can degrade the image quality to such an extent that the examination may need to be repeated.

If you need help accessing or understanding this information, contact AHS.VDHRadiologicalHealth@vermont.gov.

Suggestions for Keeping the Darkroom Clean

- Damp mop the darkroom floor.
- Remove all unnecessary items from counter tops and work surfaces.
- Use a clean, damp lint-free towel to wipe off the processor feed tray, then the counters and other surfaces in the darkroom, including the passbox if present.
- Keep hands clean to minimize fingerprints and artifacts from handling.
- Wipe or vacuum overhead air vents and safelights weekly before cleaning the feed tray and counters.
- For larger darkrooms, consider using an electrostatic air cleaner.
- Do not smoke, eat, or drink in the darkroom.
- Ensure that spilled chemical solutions are not allowed to dry and form a powder.
- There should be no open shelves above the counters in the darkroom. Cabinets are acceptable if nothing is placed on top of them.
- The ceiling of the darkroom should be constructed of solid material such as drywall. Ceiling tiles allow dirt to sift through the ceiling.
- Heating and air conditioning vents should not open into the room over the counter used for handling cassettes.
- Other sources of dust and dirt must also be controlled

Other Suggestions for Darkrooms

- Darkrooms should be painted with light colors and have light-colored counters.
- Darkrooms in dental facilities should be painted in dark colors to better visualize dental film.
- The wall behind the counter should be resistant to damage from cassettes during loading.

- The temperature should be maintained at a comfortable level regardless of the number of people working in the darkroom.
- The humidity of the darkroom should be maintained between 40% and 60%

Factors That May Cause Fogging of Film

- Using film kept past its expiration date.
- Film exposed to stray radiation during storage.
- Film exposed to excessive heat, humidity, or certain chemicals during storage.
- Light leaks from the film packet.
- Lights that are not red, including indicator lights, clocks, outlets, etc.
- Light leaks into the darkroom. Even the smallest light leak can fog film and haze images.
- Safelight filters and housing with holes and cracks.
- Improper safelight filters for the type of film being used

Finding and Eliminating Light Leaks in the Darkroom

- Close the darkroom door(s) and turn off all lights. Let your eyes adjust to the dark for at least five minutes. Look for light leaks all around the room from top to bottom.
- Seal leaks with black electrical tape or weather stripping.
- Use double doors, heavy curtains, towels, or draft stoppers as a last resort if the light leak cannot be fixed.
- The darkroom should be evaluated for light leaks at least annually.

Safelights and Daylight Loaders

- Safelights should use 15-watt frosted bulbs and be at least four feet from the work surface.
- Safelights that are closer than four feet should be directed away from the work surface or use 7.5-watt frosted bulbs.
- Safelight filters should be appropriate for the type of film being used.
 - In general, red filters can be used for blue and green sensitive film.
 - Amber, yellow, or orange filters can only be used for blue sensitive film
- Safelight filters should be checked for cracks and scratches and replaced when defects are found.
- Daylight loaders, commonly used with automatic dental film processors, are designed for use in a room with low-level illumination.
- Daylight loaders should be checked for filter integrity at least semi-annually