

Q.A. Collectible

*Sponsored by CRCPD's Committee on Quality Assurance
in Diagnostic X-Ray (H-7)*

Darkroom Safelights - One Easy Lesson

Fog on a diagnostic radiograph decreases contrast and thereby degrades the image quality, which can potentially cause a misdiagnosis. Fog may be due to many factors, one of which is improper safelighting. The purpose of this Collectible is to assist state x-ray inspectors in evaluating the appropriateness of a safelight.

A safelight should be at least four feet from the work area and processor feed tray, and the wattage of the bulb should be no greater than 15. A 7 ½ watt bulb is recommended for single emulsion film. If the label on the filter is backwards, the filter is installed upside-down. This places the emulsion closer to the light bulb where heat from the bulb will shorten the life of the filter.

A fog test should be completed with each type of film the facility is using, regardless of whether the safelight appears appropriately matched. The following may help you recognize a problem.

1. **Kodak GBX-2** (GBX stands for green/blue/x-ray) is appropriate for all x-ray films. Additionally, all Kodak duplicating film requires a GBX-2 filter.
2. **Wratten 6B** (brown) is appropriate for blue sensitive film only.
3. **Wratten 1-A** is appropriate for slow orthochromatic films only.
4. **ML-2** (orange) is commonly found in dental x-ray darkrooms, and is appropriate for non-screen films only (intraoral films). Panoramic films may not be compatible with the use of an ML-2.
5. The **NuArc Bublite** appears to be appropriate for most x-ray films, but only with bulbs that are no greater than 15 watts. The fixture should be mounted high up and away from work areas and the input tray of the processor. Covering the bottom with opaque material is a precautionary measure against potential film fog.
6. **Fluorescent** darkroom safelights may be found with orange or red filters. The orange filters should only be used with non-screen film.
7. **Kodak 2** (dark red) is designed for green-sensitive films used in cinefluorography and photofluorography.
8. **"Little red light bulbs"** are sometimes seen and should be evaluated on a case by case basis.

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