



Minnesota Department of Health
X-ray Unit
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Information Notice 2007-02

TYPICAL SHIELDING REQUIREMENTS FOR DENTAL REGISTRANTS

The State of Minnesota Radiation Rules, Chapter 4732, require dental radiation-producing equipment registrants to adequately shield the x-ray beams and scattered radiation produced by their equipment. The purpose of this requirement is to ensure machine operators and members of the general public are not unnecessarily exposed to radiation and are kept below their legal dose limits. Shielding requirements will be determined by this potential exposure to humans and must take into consideration occupancy factors, distance, work load, energy, and direction of the primary beam, and other related factors.

For dental intraoral units, a protected position or six-foot distance is required for the operator. Normally, no additional shielding is required for scattered radiation when the walls are equivalent to two thicknesses of drywall (paneling only is not sufficient).

Panoramic units incorporate a film holder and a beamstop and may not require shielding. They maybe placed in any room or hallway which allows the operator to maintain a six-foot distance form the patient while using the equipment.

Additional shielding (three thicknesses of drywall instead of two) is one of the good practices that could be used; the other one would be lining the wall with lead when sharing a wall with another office or tenant where you do not have administrative control.

Dental equipment shared by two rooms should have the pass-through opening located at the foot end of the rooms so the primary radiation cannot pass directly through the opening. Doors on this pass-through should be considered as an extension of the regulations requiring either distance or shielding. This is not as a specific regulation.

A shielding plan for extraoral (which includes both panoramic and cephalometric) equipment must be submitted for review to the Minnesota Department of Health, Radiation Control Unit, prior to construction or installation of any dental radiation-producing equipment.