

**Information Notice Number 20
(November 1997)**

For Florida Radiation Machine Registrants

Department of Health, Bureau of Radiation Control

TYPICAL SHIELDING REQUIREMENTS FOR VETERINARY REGISTRANTS

The State of Florida administrative rules require radiation machine registrants to adequately shield the x-ray beams and scattered radiation produced by their machines. 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.

Generally for this type of x-ray machine installation, the following guidance applies:

1. Preferably, a protected position is provided for the operator. When this is not possible, operators must be able to stand at least six feet away from the primary source of scatter (the animal being radiographed), outside the path of the primary beam, and wear a protective apron.
2. Shielding is necessary for inside walls when
 - a. the primary beam will be directed toward it without a beam block to intercept, or
 - b. normally occupied spaces are within eight (8) feet of the source of scatter.
3. Shielding is not required for outside walls or areas without human occupancy, such as store rooms, bathrooms, kennels, etc.

When a protected position is provided, one-sixteenth (1/16) inch lead equivalent shielding would be required to a height of seven (7) feet. No additional shielding beyond standard drywall construction is normally required on the other walls except in special cases, such as when an office worker is in close proximity to the x-ray room or a wall of the x-ray room is shared with another tenant. If additional shielding is warranted, any dense material, such as an additional thickness of drywall, can be used to attenuate the scattered radiation.

Shielding plan review and/or approval is not required by this office unless the energies used exceed 200 kVp. High volume offices (greater than 1000 mA minutes per week) or offices with fluoroscopic or special function machines should consider having their shielding planned by a licensed medical physicist. The Bureau of Radiation Control will inspect each facility that uses a radiation machine and require adequate shielding to protect operators and the public.

If you have questions or need guidance, please contact this office at:

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