

**Information Notice Number 16
(November 1997)**

For Florida Radiation Machine Registrants

Department of Health, Bureau of Radiation Control

TYPICAL SHIELDING REQUIREMENTS FOR CYSTOGRAPHY (CYSTO) MACHINES

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.

For typical cysto machine installations, the following guidance applies:

1. No shielding is necessary for outside walls.
2. Shielding is necessary for inside walls when they stop a primary beam or when a wall protects a normally occupied space within ten (10) feet of the table (secondary barrier).
3. A protected position is required for the operator.
4. Two five-eighths (5/8) inch drywall or one thirty-seconds (1/32) inch of lead equivalent shielding (one on each side of the wall) is recommended for secondary barriers.
5. A solid wood or metal door would be adequate for doors which are secondary barriers.

Thus, no additional shielding other than one-sixteenth (1/16) inch lead equivalent to a height of seven (7) feet for the operator's protected position is normally required for cysto rooms. No additional shielding is required on the other walls except perhaps 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.

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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