

## Evaluation of Shielding and Function of a Dedicated HDR Room

A dedicated HDR treatment suite has been designed and built on the third floor as part of a Radiation Oncology Clinic. The space above and below the suite is occupied non-controlled offices. The third floor is a controlled area, which is part of the clinic. The entrance is a swinging 1.6 inch lead door with approximately 1/8 inch clearance on the floor and 1/4 inch clearance on the leaded door jam. Radiation surveys have been performed using both G-M and area monitoring devices. The attenuation of the door has been measured directly and found to be approximately 3 TVL's. As expected, the room is over designed and is well within regulatory limits.

Concern has been expressed regarding both the medical emergency situation and the worst case source exposure. An average measured dose acquired by entering the HDR room during the 4 second source transit time is less than  $10^{-3}$  cGy. Exposure rates greater than 300 mR/hr were measured near the door with the source on the floor and the door closed. A procedure has been instituted to limit exposure from any procedure in which the source would be exposed within 12 inches of the floor and 6 feet of the door.

An area monitoring program has been initiated in the offices above and below the HDR suite in an effort to reassure the occupants of those offices.