

grams is that they might be able to share support spaces, including nurse stations, prep/holding rooms, soiled and clean utility room, patient toilets, and changing and waiting areas.

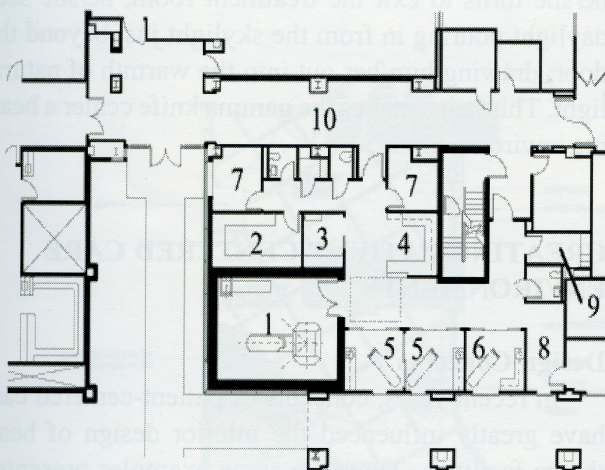
Second, the gamma knife center had better be located near the diagnostic imaging facilities. Being close to the imaging department reduces transit time and stress for the patient. Third, one of the most critical factors affecting the location of the gamma knife center is the equipment itself. The gamma knife unit weighs approximately 20 tons and is fixed to the floor at 5 points. This creates increased structural requirements for the floor that supports the unit. In addition, the dynamic loads of simply moving the unit to its final location in the hospital may render many potential sites unsuitable. In approximately 5 to 7 years the radioactive source will need to be replaced in the gamma knife unit. This involves bringing a 13-ton loader into the treatment room. This loader is used to exchange the spent cobalt-60 capsules in the gamma knife unit with new source capsules. Fourth, the shielding of the treatment room may also be a critical factor in setting the gamma knife center. With normal-density concrete, wall thickness varies from 12" (30.48 cm) be-

hind the unit to 18" (45.72 cm) or more at the front of the unit. The ceiling thickness is approximately 18" (45.72 cm). There may be shielding considerations for the floor as well.

Using an example from the Palmetto Richland Memorial Hospital in Columbia, SC,⁸ special characteristics considered in designing their Gamma Knife Center are illustrated below. To make a homelike environment and to reduce patients' tension, by entering through the main door, one can quickly discern the economy and simplicity of the suite's layout. Patients see the prep/holding rooms directly in front of them. The nurse station is in front to the left and the treatment room to the right. A skylight floods the open space with a soft, warm light, heightening the sense of arrival. By seeing all the spaces they will occupy during their treatment in one glance, patients tend to become oriented with their environment, which helps to alleviate some of the anxiety associated with being in a strange place containing with high-tech medical treatment.

In the prep/holding rooms and the consultation/exam room, there are floor-to-ceiling windows. This helps the space be a healing environment and keeps patients oriented with their surroundings within the hospital campus (Fig. 2).

The treatment room layout is simple and uncluttered. The gamma knife unit is approached from the rear. There is a helmet table along the wall, which sup-



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|-------------------|-----------------------------|
| 1. Treatment room | 6. Consultation/examination |
| 2. Dosimetry | 7. Office |
| 3. Control | 8. Sub-waiting |
| 4. Nurse station | 9. Patient dressing |
| 5. Prep. holding | 10. Existing connector |

Fig. 1. Floor plan and legend of a gamma knife center. Photo: © Brian Dressler.



Fig. 2. Patient pre/holding rooms of a gamma knife center.⁸ Photo: © Brian Dressler.