

Geometric conformation of the three-dimensional dose distribution to the shape of the cranial lesion is the motivation of both conformal radiotherapy and radiosurgery. Several studies indicate that for irregularly shaped lesions, dose distributions obtained with multiple conformal fixed fields is comparable to single isocenter arc treatments, and in some instances, may actually be better. Several techniques have been developed to produce irregularly shaped beams. Miniature multileaf collimators (MMLC) are very complicated, expensive, and present numerous quality assurance problems. Furthermore, the stepped edges from an MMLC will produce a wider beam penumbra than that of a standard cerrobend block. The use of cerrobend blocks is possible assuming that issues associated with the accuracy of block cutting and block mounting are resolved. We present a simple method to allow a secondary shaping collimator to be accurately mounted and positioned in an existing block tray holder of a linear accelerator. The cost to fabricate each collimator is reasonable and the system can be easily modified to allow the fabrication of custom irregular shaped collimators in. The design allows for quick and reproducible positioning. To date, it has been used on 3 patients and has been well received by the therapist. Currently, we have six circular collimators ranging in size from 2.0 cm to 5.0 cm and are in the process of fabricating several elliptical shaped collimators. Isodose distributions and dose volume histograms for irregular shaped lesions will be presented and compared to other treatment techniques.