3-DIMENSIONAL SIMULATION,This patient is undergoing 3-dimensionally planned radiation therapy in order to adequately target structures at risk while diminishing the degree of exposure to uninvolved adjacent normal structures. This optimizes the chance of controlling tumor while diminishing the acute and long-term side effects. With conformal 3-dimensional simulation, there is extended physician, therapist, and dosimetrist effort and time expended. The patient is initially taken into a conventional simulator room where appropriate markers are placed and the patient is positioned and immobilized. Preliminary filed sizes and arrangements, including gantry angles, collimator angles, and number of fields are conceived. Radiographs are taken and these films are approved by the physician. Appropriate marks are placed on the patient's skin or on the immobilization device.,The patient is transferred to the diagnostic facility and placed on a flat CT scan table. Scans are performed through the targeted area. The scans are evaluated by the radiation oncologist and the tumor volume, target volume, and critical structures are outlined on the CT images. The dosimetrist then evaluates the slices in the treatment-planning computer with appropriately marked structures. This volume is reconstructed in a virtual 3-dimensional space utilizing the beam's-eye view features. Appropriate blocks are designed. Multiplane computerized dosimetry is performed throughout the volume. Field arrangements and blocking are modified as necessary to provide coverage of the target volume while minimizing dose to normal structures.,Once appropriate beam

parameters and isodose distributions have been confirmed on the computer scan, the individual slices are then reviewed by the physician. The beam's-eye view, block design, and appropriate volumes are also printed and reviewed by the physician. Once these are approved, physical blocks or multi-leaf collimator equivalents will be devised. If significant changes are made in the field arrangements from the original simulation, the patient is brought back to the simulator where computer designed fields are re-simulated.,In view of the extensive effort and time expenditure required, this procedure justifies the special procedure code, 77470.