

Posterior neck electrons are matched with lateral photon fields after spinal cord tolerance has been reached in the treatment of head and neck cancer. Approximately rectangular low and medium energy electron fields at extended SSD are often used to boost over the spinal cord. Traditionally, the separate electron field is centered over the posterior electron treatment volume. A good match can be achieved more easily by using the same central axis for the photon and electron fields, and displacing the cutouts for the 6, 9, and 12 MeV beams of three Varian linacs (two 2100 C's, one 2300 C). The 10x10 and 15x15 cones were used at SSDs of 100 cm and 110cm. PDDs were measured at the center of each cutout using diodes in water. Relative output factors were measured with diodes in water and polystyrene. Film and diode measurements were used to examine the profiles. Comparison of centered and off-centered cutouts showed no clinically significant effect on PDD (<2%), relative output factors (<5%) or profiles. There were no clinically significant differences between the three machines, all of which have the same model cone and open cone depth doses. Thus a single "library" of centered reference cutout shapes can be used for MU calculations.