

Beam profiles for an Elekta Gamma Knife, Model B, were measured during acceptance with film dosimetry. Profiles were measured with V-film placed in a cassette mounted in a spherical polystyrene phantom supplied by Elekta. The phantom can be oriented in three planes: transverse, coronal, and sagittal. The films were scanned with a Scanditronix film scanner and converted to dose with a density/dose calibration curve. Isodose curves were calculated. The beam width at the 50% intensity was measured from the profiles to give the dimensions of the beams in each plane. A new microchamber, PTW Pinpoint, with a dimension of 2 mm by 5 mm was then used to measure beam profiles. A hole was drilled in a cassette to accommodate the chamber and place it at the center of the polystyrene phantom. The chamber was oriented in a sagittal plane with the 2-mm dimension at right angles to the transverse plane. The phantom was manually moved across the beam, using the Gamma Knife X-coordinate settings, to measure the profiles. The results are compared with the film results. Good agreement between the film and chamber profiles is observed.

Beam profiles measured with film and the PTW Pinpoint will be presented.