

We performed point measurements to examine the photon beam surface dose for Varian enhanced dynamic wedges (VEDW). The VEDW employs dynamic movement of a jaw, along with a varying dose rate and one dimensional intensity modulated profile (equivalent of a 60 degree physical wedge) called a golden segmented treatment table (STT table). This profile combined with an open beam profile with different weighting ratios produces wedged beams of various angles. We measured the central axis and off-axis surface dose with a Markus chamber in plastic water for 6 MV and 10 MV photon beams for several field sizes and source to surface distances of 80 cm and 100 cm. We compare the measurements with physical wedges. With VEDWs as expected, the dose measurements of open beam and 60 degree wedge are sufficient to calculate the dose for any other wedge angle. The surface dose measured for various wedge angle are in agreement within 2 % with calculations. We also measured the beam profiles using XV Kodak film at several depths for symmetric and half-field beam using the independent jaws. The profiles demonstrate distinguishable variation between the physical wedges and VEDWs. There is also variation between the half-fields for physical and VEDW beams. In case of VEDW, the difference is apparent from generated STT tables whereas with physical wedges the variation lies in the wedge thickness of the thin side versus the thick side.