

Purpose: To adequately cover a target volume in electron beam radiation therapy, the radiation field size should be increased with respect to the geometric field settings. One could measure the dose distribution in the plane perpendicular to central axis at a depth of prescribed dose and increase the field size or simply change the prescribed isodose line for appropriate target coverage. In this study, lateral electron coverage is studied by using MapCheck a 2D diode array system. **Method and Materials:** Output factors, measured for 9 and 22 MeV electron beams by using MapCheck and 0.125 cm³ ion chamber on Varian IX (Linac) were compared. Set up geometry was kept the same. Dose calibration was performed for each electron beams and used in final dose measurement for MapCheck. Plans were performed on Eclipse planning system with 2x2 to 15x15cm² for 9 and 22 MeV. Electron Monte Carlo was used for dose calculation and the plans were delivered on MapCheck and compared by using comparison criteria of $\pm 3\%$ dose difference and ± 3 mm distance-to-agreement (DTA) within 10% isodose-line threshold like IMRT dose verification. **Results:** Out put factors for 9 and 22 MeV measured for 2x2 to 15x15 cm² with MapCheck and ion chamber agrees well within $\pm 1.4\%$. Measured and planned dose comparisons for 9 MeV for 10x10 and 3x3 cm² small insert shows very good agreement with passing rate of 98.4 and 97.8 % respectively. **Conclusions:** By measuring the dose profile at a prescribed depth one could easily verify the dose coverage to the target by measuring the lateral distance and also area covered by prescribed isodose line. MapCheck could also be used to measure the output factors for very small and irregular electron fields. Since MapCheck is commonly used in radiation therapy and it provides additional role in electron beam dosimetry.