

## AbstractID: 5552 Title: Total Skin Electron Beam Commissioning with EBT Film

**Purpose:** To investigate the usefulness of ebt film (a high sensitivity self-developing radiochromic film) in the commissioning of an accelerator based electron beam for total skin irradiation.

**Method and Materials:** Measurements were made with ebt film in both water and solid water and compared with parallel plate ionization chamber measurements made in a small rectangular water phantom to determine calibration and depth dose characteristics. The ebt film was wrapped around the outer and inner plastic surfaces of a cylindrical water filled container to study the relationship between calibration measurements in the rectangular phantom and the surface dose characteristics from simulated clinical treatment.

**Results:** The ionization chamber measurements agreed well with the film measurements. In the rectangular phantom surface dose measured about 80% of maximum dose. In the simulated clinical treatment dose was highest at the surface of the cylinder and ranged from approximately 2.5 to 3.5 times the dose at maximum from a single cylinder orientation compared with the six orientations used for the clinical simulation. Minimum and maximum clinical dose versus depth curves merged at a depth of about 5 mm.

**Conclusion:** The film was found to be quite easy to use and produced results with less than the anticipated effort for this type of commissioning. It was found necessary to install UV filter sleeves over room fluorescent lights to minimize UV fog to low dose areas of the film