

AbstractID: 1880 Title: Treatment of Endometrial Carcinoma using IMRT with Concomitant Vaginal Cuff Boost

The treatment of endometrial carcinoma in radiotherapy typically involves treatment to the pelvis followed by a brachytherapy vaginal cuff boost. Pelvic treatment typically involves a four-field arrangement using anterior, posterior, and two lateral fields. The brachytherapy boost is delivered using a vaginal cylinder using either high or low dose rate. Doses are typically 45 Gy to the pelvis and 12 Gy using a three fraction HDR brachytherapy boost. A phase II in-house trial has been designed at our institution to compare conventional treatment with IMRT treatment using a hypofractionated vaginal cuff boost. The goals of the protocol are a reduction in dose to normal tissues and treatment time by eliminating the brachytherapy boost. The pelvic region is treated to 45 Gy (1.8 Gy/day). The vaginal cuff boost region is treated concurrently to 57.5 Gy (70 Gy BED) in 2.3 Gy fractions. Sample IMRT plans were created for five patients undergoing conventional treatment. Dose volume histograms for the conventional and IMRT plans were compared. Using IMRT the volume receiving 40 Gy was reduced from 35.8% to 18.2%, 66.8% to 21.6%, and 93.2 to 37.4%, for the bowel, rectum and bladder respectively. Planning margins were 1 cm in all dimensions for the pelvic nodes and 1-cm for the vaginal cuff except posterior. The conventional plans did not include dose from the HDR boost, which will increase dose to critical structures.