Objectives Adjuvant vaginal cuff brachytherapy (VCB) improves vaginal control rates in early stage endometrial cancer. We propose a shorter course of VCB would be non-inferior in safety, efficacy and quality of life metrics compared to standard course VCB.

Methods This multi-institutional trial randomized early stage endometrial patients to adjuvant short course VCB (11 Gy x 2 fractions to the surface delivered a week apart) or the standard of care VCB (either 6 Gy x 5 fractions to the surface, 7 Gy x 3 fractions or 3–5.5 Gy x 4 fractions at 0.5 cm depth). All patients underwent hysterectomy with pathologically confirmed endometrioid adenocarcinoma, serous, clear cell or carcinosarcoma histology. Eligible patients included all FIGO IB or II, FIGO 1A gr 2-3 or FIGO 1A gr 1 with LVI. Primary endpoint was health related quality of life (HRQOL) using the Global Health Score from the QLQ-C30 at 1 month.

Results There were 108 patients enrolled from 5 institutions. At a median follow-up of 12.85 months, there have been no isolated vaginal recurrences. Table 1 shows the distribution of recurrences. Adverse events are shown in table 2. At the 1 month and 6 month time point, the QLQ-C30 scores in the experimental arm were non-inferior (P = 0.00002).

Conclusions This prospective randomized trial showed short course VCB is non-inferior to standard course VCB. While longer follow up data is necessary, short course VCB supports a growing literature in providing more options for women with early stage endometrial cancer.