BACKGROUND It is unclear whether sentinel lymph node biopsy (SLNB) can replace lymphadenectomy in women with high grade endometrial cancer (EC). We performed a prospective multicenter cohort study (the SENTOR trial) to evaluate the diagnostic accuracy of SLNB using indocyanine green in intermediate and high grade EC (NCT01886066).

METHODS Patients with clinical stage I grade 2 endometrioid or high grade EC scheduled for minimally invasive hysterectomy at three academic centers in Toronto, Canada, were prospectively enrolled for SLNB followed by pelvic (PLND) and paraaortic lymphadenectomy (PALND) as the reference standard. The study was powered to determine sensitivity of the SLNB algorithm as the primary endpoint.

RESULTS We enrolled 156 patients (126 high grade); all underwent SLNB and PLND, and 106 (84%) with high grade EC underwent PALND. Sentinel lymph node detection rates were 97% per patient (95% CI 94–99), 88% per hemipelvis (95% CI 83–91), and 78% bilaterally (95% CI 70–84). Of 27 patients (17%) with nodal metastases, 26 were correctly identified by the SLNB algorithm, yielding a sensitivity of 96% (95% CI 81–100), false negative rate of 4% (95% CI 0–19), and negative predictive value of 99% (95% CI 96–100). Only one patient (0.6%) was misclassified by the SLNB algorithm. Two of 27 node-positive patients (7.5%) were identified outside traditional PLND boundaries, and five of 27 (18.5%) required immunohistochemistry for diagnosis.

CONCLUSION SLNB has comparable, if not superior, diagnostic accuracy relative to lymphadenectomy in high grade EC patients. SLNB is a viable option for the surgical staging of EC.