



# Is sentinel lymph node mapping associated with acceptable performance characteristics for the detection of nodal metastases in women with endometrial cancer?

**Yes.** Sentinel lymph node (SLN) biopsy will accurately identify nodal metastases in 97% of women with nodal disease. Negative SLNs are accurate in 99% of cases.

Rossi EC, Kowalski LD, Scalici J, et al. A comparison of sentinel lymph node biopsy to lymphadenectomy for endometrial cancer staging (FIRES trial): a multicenter, prospective, cohort study. *Lancet Oncol.* 2017;18(3):384-392.

## ► EXPERT COMMENTARY

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The role of lymphadenectomy for endometrial cancer has evolved considerably over the last 30 years. While pathologic assessment of the nodes provides important information to tailor adjuvant therapy, 2 randomized trials both reported no survival benefit in women who underwent lymphadenectomy compared with hysterectomy alone.<sup>1,2</sup> Further, these trials revealed that lymphadenectomy was associated with significant short- and long-term sequelae.

SLN biopsy, a procedure in which a small number of nodes that represent the first drainage basins of a primary tumor are removed, has been proposed as an alternative to traditional lymphadenectomy. Although SLN biopsy is commonly used for other solid tumors, few large, multicenter studies have been conducted to evaluate the technique's safety in endometrial cancer.

*The author reports that he is a consultant for Clovis and Tesaro.*

## Details of the study

The Fluorescence Imaging for Robotic Endometrial Sentinel lymph node biopsy (FIRES) trial was a prospective trial evaluating the performance characteristics of SLN biopsy in women with clinical stage I endometrial cancer at 10 sites in the United States. After cervical injection of indocyanine green, patients underwent robot-assisted hysterectomy with SLN biopsy followed by pelvic lymphadenectomy. Para-aortic lymphadenectomy was performed at the discretion of the attending surgeon. The study's primary end point was sensitivity of SLN biopsy for detecting metastatic disease in women who had mapping.

Over approximately 3 years, 385 patients were enrolled. Overall, 86% of patients had mapping of at least 1 SLN and 52% had bilateral mapping. Positive nodes were found in 12% of the study population. Among women who had SLNs identified, 35 of 36 nodal metastases were identified (97% sensitivity). Negative SLNs correctly predicted the absence of metastases (negative predictive value) in 99.6% of patients.

Overall, the procedure was well tolerated. Adverse events were noted in 9% of patients, and approximately two-thirds were considered serious adverse events. The most common adverse events were neurologic complications, respiratory distress, nausea and vomiting, and bowel injury in

## FAST TRACK

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3 patients. One ureteral injury occurred during SLN biopsy.

### Study strengths and weaknesses


The FIRES study provides strong evidence for the effectiveness of SLN biopsy in women with apparent early stage endometrial cancer. The procedure not only was highly accurate in identifying nodal disease but it also had acceptable adverse events. Further, many of the benefits of SLN biopsy, such as a reduction in lymphedema, will require long-term follow-up.

**Consider study results in context.** As oncologists consider the role of SLN biopsy in practice, this work should be interpreted in the context of the study design. The study was performed by only 18 surgeons at 10 centers. Prior to study initiation, each site and surgeon underwent formal training and observation to ensure that the technique for SLN biopsy was adequate. Clearly, there will be a learning curve for SLN biopsy, and this study's results may not immediately be generalizable.

### WHAT THIS EVIDENCE MEANS FOR PRACTICE

While the role of lymph node assessment for endometrial cancer will remain controversial, for women who undergo nodal evaluation, SLN biopsy is associated with excellent performance characteristics and is a reasonable option.

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Despite rigorous quality control procedures, there was no nodal mapping in 48% of the hemi-pelvises. In practice, these patients require lymph node dissection. The authors estimated that 50% of patients would still require lymphadenectomy (40% unilateral, 10% bilateral) if SLN mapping was used in routine practice. In addition, while the FIRES trial included women with high-risk histologies, the majority of patients had low-risk, endometrioid tumors. Further study will help to define performance of SLN biopsy in populations at higher risk for nodal metastases. 



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### References

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2. ASTEC Study Group, Kitchener H, Swart AM, Qian Q, Amos C, Parmar MK. Efficacy of systematic pelvic lymphadenectomy in endometrial cancer (MRC ASTEC trial): a randomised study. *Lancet.* 2009;373(9658):125-136.