

Evidence Discussion (ONC-22)

Initial staging

- The National Comprehensive Cancer Network guidelines (NCCN) for non-fertility sparing treatment recommend considering chest imaging with chest x-ray. If an abnormality is seen on chest x-ray, then chest CT may be performed.¹ Both NCCN and the American College of Radiology note that MRI of the pelvis is the preferred imaging modality when pretreatment assessment of local tumor extent is indicated due to suspected extra-uterine disease or prior to fertility sparing treatment.^{1,2}
- Transvaginal ultrasound can be done if MRI is contraindicated or unavailable.¹
- If distant metastatic disease is suspected based on abnormal physical examination findings, or for high-grade endometrioid carcinoma, serous, clear cell or carcinosarcoma, cross-sectional imaging with CT Chest and CT Abdomen and Pelvis can be considered.¹
- For incidental findings of endometrial cancer after hysterectomy or incompletely surgically staged with uterine risk factors (myoinvasion of over 50%, cervical stromal involvement or tumor larger than 2 cm), consideration should be given to CT Chest/Abdomen and Pelvis to evaluate for distant metastatic disease per NCCN guidelines.¹
- FDG-PET/CT in select patients if metastases is suspected and other cross sectional imaging is inconclusive.¹
- Although endometrial cancer is surgically staged, preoperative imaging can help tailor surgery and medical treatment in cases as outlined by NCCN and ACR.^{1,2} MRI or transvaginal ultrasound is valuable to assess local tumor extent. CT and/or PET-CT is valuable to assess lymph node metastases and distant spread. Preoperative imaging may identify deep myometrial invasion, cervical stromal involvement and metastatic disease. Although these imaging methods may provide information about likely tumor stage, the reported accuracies for preoperative staging of endometrial cancer by conventional imaging have not yet been good enough to replace surgical staging.³
- MRI Pelvis has long been established as a valuable imaging method in the preoperative staging of endometrial cancer because it allows the most accurate evaluation of the extent of the pelvis tumor. A meta-analysis showed that the efficacy of contrast-enhanced MRI is significantly better than that of noncontrast MRI and US, and tended toward better results than CT, in evaluating the depth of myometrial invasion in patients with EC.²
- Transvaginal ultrasound may be used if MRI is contraindicated. A study found this imaging modality to have a 79.5% sensitivity and an 89.6% specificity for detecting deep myometrial invasion. However, MRI showed greater accuracy than ultrasound and ultrasound is limited in the setting of concomitant benign disease.²

- CT Chest, Abdomen and Pelvis may be used for detection of lymph node metastases, if distant metastatic disease is suspected for indications as per NCCN and ACR listed above.^{1,2}
- FDG-PET/CT may be indicated if distant metastatic disease is suspected and CT scans are inconclusive. A meta-analysis reported that the overall pooled sensitivity, specificity, and accuracy of using FDG-PET/CT for detection of lymph node metastasis in EC was 72.0%, 94.0%, and 88.0%, respectively.²

Restaging

- Recurrence rates for low- or intermediate-risk patients with endometrial cancer are infrequent. A recent review of post-treatment surveillance and diagnosis of recurrence in women with gynecologic cancers sponsored by the Society of Gynecologic Oncology recommends that radiologic evaluation be used only to investigate suspicion of recurrent disease because of symptoms or physical exam and not for routine surveillance after treatment.⁴
- CT Chest, Abdomen and Pelvis is useful for suspected recurrence of disease based on abnormal physical examination findings and/or new pelvic, abdominal or pulmonary symptoms.¹ A study reported that 45 asymptomatic women had routine CT scans, and recurrence was diagnosed by CT in only 2 (4.4%), whereas 37 symptomatic women had CT scans for suspicion of recurrence, and it was confirmed by CT in 17 (46%).²
- MRI of the pelvis may be done after fertility sparing treatment for persistent endometrial carcinoma.¹ In patients with persistent endometrial carcinoma after 6 months of failed hormonal therapy, pelvic MRI to exclude myoinvasion and nodal/ovarian metastasis is recommended before continuing fertility-sparing therapy.¹
- FDG-PET/CT may give further clinically applicable information in cases where conventional imaging is inconclusive. As per the prior meta-analysis, the overall pooled sensitivity, specificity, and accuracy of using FDG-PET/CT for detection of lymph node metastasis in EC was 72.0%, 94.0%, and 88.0%, respectively.²

Surveillance

- Advanced imaging is not routinely indicated for surveillance for non-metastatic, asymptomatic disease in endometrial cancer. A recent review of post-treatment surveillance and diagnosis of recurrence in women with gynecologic cancers sponsored by the Society of Gynecologic Oncology recommends that radiologic evaluation be used only to investigate suspicion of recurrent disease because of symptoms or physical exam and not for routine surveillance after treatment.⁴
- Measurable metastatic disease can be followed with CT abdomen and pelvis and CT of previously involved body areas every 3 months for 5 years after treatment.
- All stages of uterine sarcoma, CT chest, abdomen and pelvis every 3 months for 2 years, every 6 months for 3 years and then every 1-2 years until year 10.¹

Gestational Trophoblastic Disease (GTD)

- The most common form of GTD is hydatidiform mole (HM), also known as molar pregnancy. HMs are considered a benign, premalignant disease.⁵
- Initial determination of suspected HM is often made based on ultrasound findings in combination with clinical symptoms and hCG levels.⁵
- Gestational trophoblastic neoplastic disorders include a malignant form of GTD, and can present as invasive mole, choriocarcinoma, placental site trophoblastic tumor (PSTT), or epithelioid trophoblastic tumor (ETT). GTN cells are malignant and can metastasize to other organs such as lungs, brain, bone and vagina.
- Initial staging of GTN includes a CT of chest and CT of abdomen and pelvis.
- If pulmonary metastases are noted on CT chest or for signs or symptoms of central nervous system (CNS) involvement, MRI brain is indicated to evaluate for metastatic disease.⁵ Rates of CNS metastases are low with post-molar GTN, but approximately 20% of patients with choriocarcinoma have CNS involvement.⁵
- For monitoring response to treatment or for suspected progression CT chest, abdomen and pelvis is performed.
- Post-treatment surveillance in general is done with monitoring of hCG levels in patients with post-molar GTN or choriocarcinoma, where hCG is a reliable tumor marker.⁵
- Surveillance imaging for placental site or epithelioid trophoblastic tumor can be done with CT Chest, Abdomen, and Pelvis annually for 2 years. Post-treatment imaging is indicated for follow-up after treatment of PSTT and ETT, where hCG is a less reliable tumor marker.⁵

References

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5. Abu-Rustum NR, Yashar CM, Bradley, K, et al. National Comprehensive Cancer Network (NCCN) Guidelines Version 2.2021 – March 31, 2021. Gestational Trophoblastic Neoplasia, available at: https://www.nccn.org/professionals/physician_gls/pdf/cns.pdf. Referenced with permission from the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines™) for Gestational Trophoblastic Neoplasia, March 31, 2021 National Comprehensive Cancer Network, Inc. All rights reserved. The NCCN Guidelines™ and illustrations herein may not be reproduced in any form for any purpose without the express written permission of the NCCN. To view the most recent and complete version of the NCCN Guidelines™, go online to NCCN.org.