Baseline Staging Imaging for Distant Metastasis in Women with Stage I, II, and III Breast Cancer

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Recommendations

This section is a quick reference guide and provides the guideline recommendations only. For key evidence associated with each recommendation, the systematic review, and the guideline development process, see the full Report.

GUIDELINE OBJECTIVES
To provide recommendations for the use of imaging tests to detect distant metastases in women with newly diagnosed breast cancer.

TARGET POPULATION
Women with newly diagnosed primary breast cancer (originated in the breast) who have no symptoms of distant metastasis.

INTENDED USERS
This guideline is intended for health care professionals, policy makers, program planners, and institutions involved in the management of women with clinical and pathologically confirmed primary breast cancer.

RECOMMENDATIONS

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<th>Recommendation 1</th>
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<td>Staging tests using conventional anatomic (chest X-ray, liver ultrasound, chest-abdomen-pelvis CT scan) and/or metabolic imaging modalities (positron emission tomography [PET]/CT, PET/magnetic resonance [MR], bone scintigraphy) should not be ordered routinely for women newly diagnosed with clinical stage I or II breast cancer, and with no symptoms of distant metastasis, regardless of biomarker status.</td>
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Qualifying Statements for Recommendation 1

- Baseline conventional anatomic imaging modalities (chest X-ray, liver ultrasound, bone scan, chest-abdomen-pelvis CT scan) should not be ordered routinely in women with newly diagnosed stage I or II breast cancer because this population exhibits an extremely low prevalence of asymptomatic distant metastasis.
- Although PET/CT may improve the detection rate, the prevalence of distant metastasis in women with early stage I or II breast cancer is very low, and PET/CT may add unnecessary anxiety and resource use. Therefore, the use of PET/CT, as part of the baseline staging in women clinically diagnosed with early-stage breast cancer (I, II) and with no symptoms for distant metastasis is not recommended at this time.
- Although women with triple negative and human epidermal growth factor receptor 2-positive breast cancer have an increased risk of disease recurrence, the association of distant metastasis and biomarker profile in early-stage breast cancer has not been adequately studied in prospective studies of staging investigation. The benefit and risks of the routine use of biomarker profiles to assess for distant metastasis is still unclear and, thus, its use to guide decisions on imaging staging for clinical early-stage breast cancer would not be recommended.
cancer is not recommended regardless of whether the patient is going for neoadjuvant therapy.

**Recommendation 2**

In women newly diagnosed with stage III breast cancer, baseline staging tests, using either anatomic (chest X-ray, liver ultrasound, chest-abdomen-pelvis CT scan) and/or metabolic imaging modalities (PET/CT, PET/MR, bone scintigraphy), should be considered regardless of whether the patient is symptomatic for distant metastasis or not, and regardless of biomarker profile.

**Qualifying Statements for Recommendation 2**

- Staging tests should be considered at initial diagnosis, so that appropriate treatment recommendations can be made.
- A prospective, randomized trial (registration # NCT02751710) of PET/CT versus conventional anatomic imaging in clinical stage III patients who will receive neoadjuvant therapy is currently underway in Ontario. The goal of this trial is to determine the rate of upstaging to stage IV with each modality. Given that the existing evidence is based largely on retrospective, observational, single institution studies, members of the Working Group believe that it is prudent to wait for the results of the trial before making a recommendation on the choice between anatomic or functional imaging modalities as the standard of practice for staging in these patients.