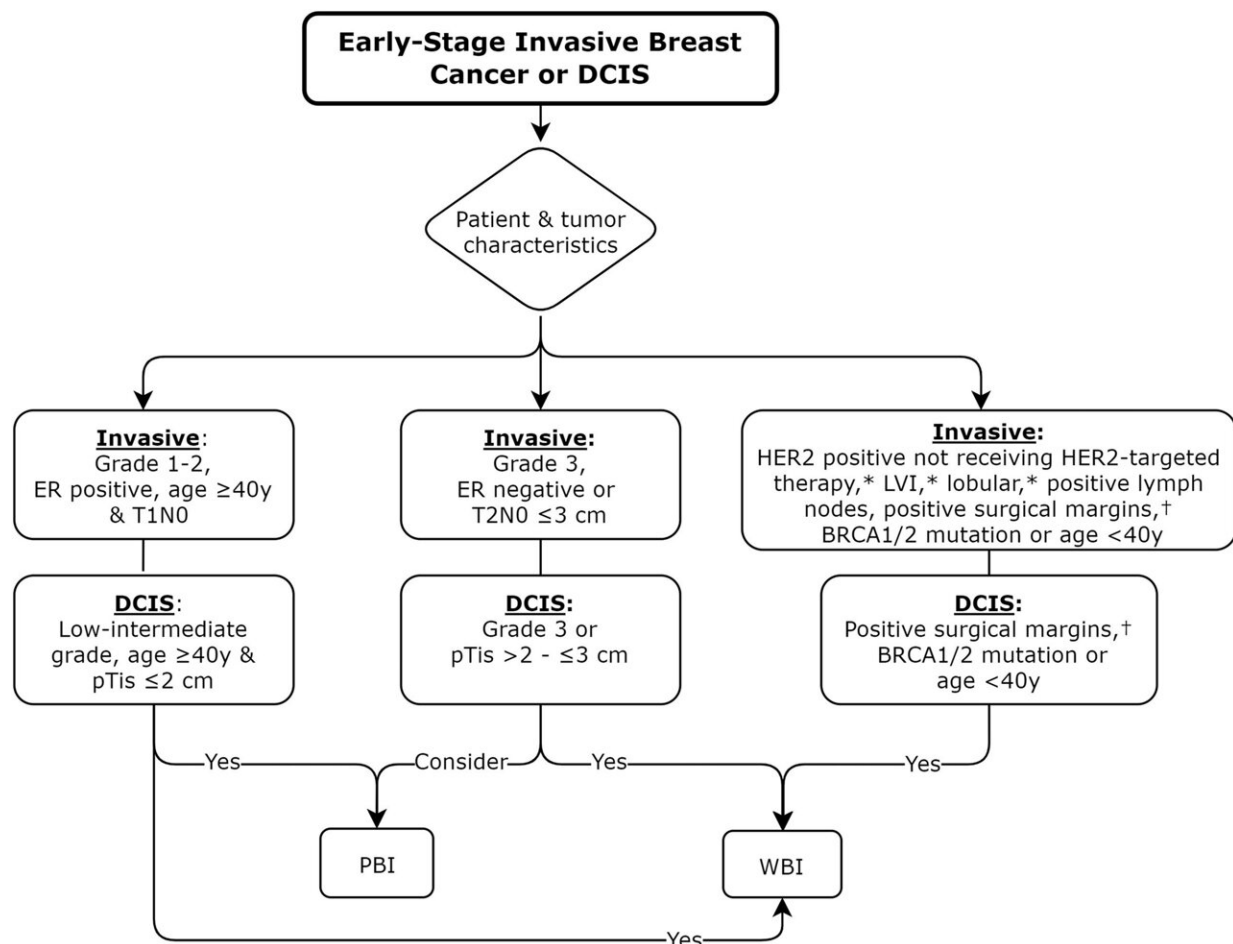


# Patient-centered clinical guideline on partial breast irradiation for early-stage invasive breast cancer and DCIS

November 15 2023



Adjuvant Radiation Therapy Treatment Options for Early-Stage Invasive Breast Cancer or DCIS  
 Abbreviations: DCIS = ductal carcinoma in situ; ER = estrogen receptor; HER2 = Human epidermal growth factor receptor 2; LVI = lymphovascular invasion; PBI = partial breast irradiation; RCTs = randomized

controlled trials; WBI = whole breast irradiation.\* The characteristics HER2-positive not receiving HER2-targeted therapy, lobular, and LVI are conditionally not recommended, and the remaining characteristics in this box are not recommended, both due to low patient numbers accrued to RCTs. Higher risk of recurrence is possible with PBI, although this may be an option in limited situations.† Re-excision to negative margins is preferred.<sup>43</sup>. Credit: *Practical Radiation Oncology* (2023). DOI: 10.1016/j.prro.2023.11.001

The American Society for Radiation Oncology (ASTRO) issued today a [clinical guideline on partial breast irradiation](#) for patients with early-stage invasive breast cancer or ductal carcinoma in situ (DCIS). For the guideline, experts in breast cancer compiled evidence—including several recently published large, randomized clinical trials—to provide guidance on which patients can benefit from partial breast radiation, as well as best practices to deliver the treatment effectively.

Breast cancer is the most common malignancy treated with [radiation therapy](#) in the United States and the leading cause of cancer incidence worldwide. Patients diagnosed with early-stage breast cancer—the most common presentation of the disease—often are eligible for breast-conserving therapy, an alternative to breast removal that combines surgery to remove the tumor with radiation therapy to reduce the likelihood it will return.

With partial breast radiation, the [radiation dose](#) is delivered just to the part of the breast where the tumor was removed, offering a more localized alternative to [whole breast irradiation](#) that patients report is associated with lower out-of-pocket costs and less time away from work.

Since ASTRO last issued recommendations for partial breast radiation in 2017, multiple randomized trials have published results comparing clinical outcomes with partial breast and whole breast radiation,

consistently finding no significant differences in recurrence in the same breast, overall survival or cancer-free survival, as well as similar or improved side effects with the partial breast treatment.

Evidence from these [clinical trials](#) was included in a [systematic review](#) conducted by the Agency for Healthcare Research and Quality (AHRQ) to develop the guideline.

"There have been more than 10,000 women included in these randomized controlled trials, with 10 years of follow-up showing equivalency in tumor control between partial breast and whole breast radiation for appropriately selected patients," said Simona F. Shaitelman, MD, EdM, vice chair of the guideline task force and a professor of breast radiation oncology at the University of Texas MD Anderson Cancer Center in Houston.

"These data should be driving a change in practice, and partial breast radiation should be a larger part of the dialogue when we consult with patients on decisions about how best to treat their early-stage breast cancer."

The task force and AHRQ review also addressed the technical aspects of partial breast radiation, including techniques and [best practices](#) for delivering partial breast radiation.

"We hope that by laying out the evidence from these major trials and providing guidance on how to administer partial breast radiation, the guideline can help more oncologists feel comfortable offering this option to their patients as an alternative to whole breast radiation," Janice A. Lyons, MD, chair of the guideline task force and a professor of [radiation oncology](#) at the University Hospitals Seidman Cancer Center in Cleveland.

"For example, we discuss data linking certain fractionation schedules with better cosmetic outcomes, to help providers achieve positive results for their patients."

Full recommendations and supporting evidence are provided in the guideline; key recommendations are as follows:

- For patients with early-stage, node-negative [invasive breast cancer](#), partial breast radiation is strongly recommended as an alternative to whole breast radiation if the patient has favorable clinical features and tumor characteristics, including grade 1-2 disease, estrogen receptor (ER)-positive status, age 40 or older and small tumor size. It is conditionally recommended if the patient has an indicator of higher recurrence risk, including grade 3 disease, ER-negative histology or larger tumor size. It is not recommended for patients with positive lymph nodes, positive surgical margins or germline BRCA1/2 mutations or those who are younger than 40, and it is conditionally not recommended for patients with less favorable risk features (e.g., lymphovascular invasion or lobular histology), due primarily to the lack of robust data on these patient subsets in published randomized trials.
- The recommendations for patients with DCIS align with those for early-stage [breast cancer](#): partial breast radiation is strongly recommended as an alternative to whole breast radiation for patients with favorable clinical and tumor features outlined in the guideline; conditionally recommended for those with higher grade disease or larger tumors; and not recommended for patients with positive surgical margins, BRCA mutations or age

Citation: Patient-centered clinical guideline on partial breast irradiation for early-stage invasive breast cancer and DCIS (2023, November 15) retrieved 28 April 2024 from

<https://medicalxpress.com/news/2023-11-patient-centered-clinical-guideline-partial-breast.html>

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