



Canadian Agency for  
Drugs and Technologies  
in Health

## RAPID RESPONSE REPORT: REFERENCE LIST

**TITLE:** Oncotype DX in Women and Men with ER-PR-Positive, HER2-Negative, Early Stage Breast Cancer with Lymph Node Micrometastasis: Clinical Effectiveness, Cost-Effectiveness, and Guidelines

**DATE:** 29 June 2016

### RESEARCH QUESTIONS

1. In the adjuvant treatment setting, what is the clinical effectiveness of Oncotype DX in women and men with ER-PR-positive, HER2-negative early stage breast cancer with one lymph node micrometastasis?
2. In the adjuvant treatment setting, what is the cost-effectiveness of Oncotype DX in women and men with ER-PR-positive, HER2-negative early stage breast cancer with one lymph node micrometastasis?
3. What are the evidence-based guidelines regarding the use of Oncotype DX in women and men with ER-PR-positive, HER2-negative early stage breast cancer with one lymph node micrometastasis?

### KEY FINDINGS

One evidence-based guideline was identified regarding the use of Oncotype DX in women and men with ER-PR-positive, HER2-negative early stage breast cancer with one lymph node micrometastasis.

### METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were used to limit retrieval by publication type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between December 1, 2013 and June 27, 2016. Internet links were provided, where available.

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**SELECTION CRITERIA**

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

<b>Population</b>	Women and men with early stage ER-PR-positive and HER2-negative breast cancer with micrometastasis in one lymph node (N1mic) in the adjuvant setting
<b>Intervention</b>	Oncotype DX
<b>Comparator</b>	Other clinical or pathological prognostic indicators
<b>Outcomes</b>	Q1: Clinical effectiveness (benefits and harms, safety); Q2: Cost-effectiveness; Q3: Evidence-based guidelines
<b>Study Designs</b>	Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, economic analyses, evidence-based guidelines

ER = estrogen receptor; HER2 = human epidermal growth factor receptor 2; PR = progesterone receptor.

**RESULTS**

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, economic evaluations, and evidence-based guidelines.

One evidence-based guideline was identified regarding the use of Oncotype DX in women and men with ER-PR-positive, HER2-negative early stage breast cancer with one lymph node micrometastasis. No relevant health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, or economic analyses were identified.

Additional references of potential interest are provided in the appendix.

**Health Technology Assessments**

No literature identified.

**Systematic Reviews and Meta-analyses**

No literature identified.

**Randomized Controlled Trials**

No literature identified.

**Non-Randomized Studies**

No literature identified.

**Economic Evaluations**

No literature identified.

## Guidelines and Recommendations

1. Eisen A, Fletcher GG, Gandhi S, Mates M, Freedman OC, Dent SF, et al. Optimal systemic therapy for early female breast cancer [Internet]. Toronto: Cancer Care Ontario (CCO); 2014 Sep 30. [cited 2016 Jun 28]. (Program in Evidence-Based Care evidence-based series #1-21). Available from:  
<https://www.cancercare.on.ca/common/pages/UserFile.aspx?fileId=334825>  
See: R2, page 4 to 5;  
R7, page 6

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**APPENDIX – FURTHER INFORMATION:**

**Previous CADTH Reports**

2. Oncotype DX in women and men with ER-positive, HER2-negative early stage breast cancer who are lymph node negative: a review of clinical effectiveness and guidelines [Internet]. Ottawa: CADTH; 2014 Feb 20. [cited 2016 Jun 28]. (Rapid response report: summary with critical appraisal). Available from: <http://www.cadth.ca/media/pdf/htis/apr-2014/RC0524%20Oncotype%20DX%20for%20node%20negative%20patients%20Final.pdf>

**Non-Randomized Studies**

*ER-positive and HER2-negative, PR Status Not Specified in Abstract*

3. Ozmen V, Atasoy A, Gokmen E, Ozdogan M, Guler N, Uras C, et al. Impact of Oncotype DX recurrence score on treatment decisions: results of a prospective multicenter study in Turkey. *Cureus* [Internet]. 2016 [cited 2016 Jun 28];8(3):e522. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4829400>  
[PubMed: PM27081583](#)
4. Frazier TG, Fox KR, Smith JS, Laronga C, McSwain A, Paul D, et al. A retrospective study of the impact of 21-gene recurrence score assay on treatment choice in node positive micrometastatic breast cancer. *Pharmaceuticals (Basel)* [Internet]. 2015 [cited 2016 Jun 28];8(1):107-22. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4381203>  
[PubMed: PM25789420](#)
5. Gligorov J, Pivot XB, Jacot W, Naman HL, Spaeth D, Misset JL, et al. Prospective clinical utility study of the use of the 21-gene assay in adjuvant clinical decision making in women with estrogen receptor-positive early invasive breast cancer: results From the SWITCH study. *Oncologist*. 2015 Aug;20(8):873-9.  
[PubMed: PM26112003](#)
6. Siegelmann-Danieli N, Silverman B, Zick A, Beit-Or A, Katzir I, Porath A. The impact of the Oncotype DX recurrence score on treatment decisions and clinical outcomes in patients with early breast cancer: the Maccabi Healthcare Services experience with a unified testing policy. *Ecancermedicalsecience* [Internet]. 2013 [cited 2016 Jun 28];7:380. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3869476>  
[PubMed: PM24386009](#)

*ER-positive*

7. Lee MH, Han W, Lee JE, Kim KS, Park H, Kim J, et al. The clinical impact of 21-gene recurrence score on treatment decisions for patients with hormone receptor-positive early breast cancer in Korea. *Cancer Res Treat* [Internet]. 2015 Apr [cited 2016 Jun 28];47(2):208-14. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4398124>  
[PubMed: PM25381828](#)

*Oncotype DX Not Mentioned in Abstract*

8. Levine MN, Julian JA, Bedard PL, Eisen A, Trudeau ME, Higgins B, et al. Prospective evaluation of the 21-gene recurrence score assay for breast cancer decision-making in Ontario. *J Clin Oncol*. 2016 Apr 1;34(10):1065-71.  
[PubMed: PM26598746](#)

**Economic Evaluations – ER-positive, PR Status Not Specified in Abstract**

9. Kip M, Monteban H, Steuten L. Long-term cost-effectiveness of Oncotype DX(R) versus current clinical practice from a Dutch cost perspective. *J Comp Eff Res*. 2015 Sep;4(5):433-45.  
[PubMed: PM25872415](#)

**Review Articles**

10. Henry NL, Somerfield MR, Abramson VG, Allison KH, Anders CK, Chingos DT, et al. Role of patient and disease factors in adjuvant systemic therapy decision making for early-stage, operable breast cancer: American Society of Clinical Oncology Endorsement of Cancer Care Ontario guideline recommendations. *J Clin Oncol*. 2016 Jul 1;34(19):2303-11.  
[PubMed: PM27001586](#)