



oncotype DX[®]
Breast Recurrence Score

PATIENT INFORMATION

*Helping you with breast cancer
treatment decision-making*

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An educational guide prepared by Genomic Health to assist healthcare professionals in explaining the Oncotype DX Breast Recurrence Score[®] test to their patients

Note to patients: Genomic Health is unable to advise you on your diagnosis or treatment plan. Such matters should be discussed with your healthcare professional.

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Introduction

This booklet has been written to give you an introduction to the Oncotype DX Breast Recurrence Score® test.

The Oncotype DX Breast Recurrence Score test can help to make treatment decisions in early stage, oestrogen receptor-positive (ER+), human epidermal growth factor receptor 2-negative (HER2-negative) invasive breast cancer.

Specifically, the test can help to establish how likely the addition of chemotherapy to hormone (endocrine) therapy^{1,2} will be beneficial to your treatment plan.



Elizabeth S.

"It's so remarkable that finally, you can distinguish one person's cancer from another—I'm just so thankful."

Treatment for breast cancer

All breast cancers are not the same. The chances that you will stay well after treatment for breast cancer are improving all the time, and the majority of people who are diagnosed with breast cancer will survive following treatment.

As the understanding of breast cancer has increased, **it has become possible to tailor a specific treatment plan to better suit each patient.**

Surgery is used to remove the initial (primary) cancer from the breast. All treatments following surgery are known as adjuvant treatments.

Adjuvant treatments, such as radiotherapy and drug treatments, can help to prevent cancer returning. Drug treatments also reduce the chance of the primary cancer returning in another part of the body (known as secondary or metastatic breast cancer).



Jen D.

"Being given personalised information specific to my tumour allowed me to move ahead confidently."

- Anti-oestrogen (hormone) therapy is offered to all women with ER+ breast cancer.
- Trastuzumab (Herceptin®) is the treatment commonly offered to most women with HER2-positive breast cancer; it is prescribed alongside chemotherapy. Exceptions are those with a very low recurrence risk and those who are not fit enough to receive chemotherapy and trastuzumab.
- Chemotherapy treatment may be considered – this is for discussion between you and your healthcare professional.

The benefits of chemotherapy treatment are much less certain in women with ER+ and HER2-negative cancers.

In this case, there is a balance between the benefits of chemotherapy and its inevitable side effects. We need tests to identify those people who are more likely to benefit from treatment with chemotherapy and those who are less likely to benefit from chemotherapy. Genomic testing can help to do that.

Genomic testing

Research into the many factors that influence cancer cell growth has allowed the identification of important breast cancer genes that influence tumour growth and behaviour (activity).

Genomic tests allow us to measure the activity of genes in cancers. These tests can provide very useful additional information where there is uncertainty about the benefit of chemotherapy in helping to prevent breast cancer returning.

The most commonly used genomic test in the UK is the Oncotype DX Breast Recurrence Score® test for invasive breast cancer.

Genomics is different to **genetics**. Broadly speaking, genetics can help to tell you your risk for getting cancer, while genomics can help to choose your treatment once a cancer is present. So, unlike a genetic test result, the Oncotype DX Breast Recurrence Score test result will not have implications for any of your family members – the information it gives is only related to the cancer that has been tested.



Vilma M.
"The Oncotype DX® test gave me a tangible way to view the benefits of chemotherapy."

What is the Oncotype DX Breast Recurrence Score® test?

The Oncotype DX Breast Recurrence Score test is a diagnostic test that measures the activity of a group of cancer genes in a woman's breast cancer tissue. The test gives you information about:

Oncotype DX Breast Recurrence Score test

Likelihood of benefit from chemotherapy

Chances of breast cancer returning

The test takes place on cancer tissue removed at the time of surgery, **so no additional surgery is required**. The test can also be performed on cancer tissue obtained from a core biopsy procedure.^{3,4}

How can the Oncotype DX Breast Recurrence Score test help me?

This test provides information specific to your cancer and so helps your healthcare professional(s) understand the underlying biology of your cancer, which will enable your treatment plan to be tailored specifically for you.

Am I eligible for the test?

Your healthcare professional will discuss this with you. The criteria for eligibility are that you:^{1,2,5}

- ✓ are newly diagnosed with early stage invasive breast cancer
- ✓ have cancer cells that are ER+
- ✓ have cancer cells that are HER2-negative
- ✓ are either lymph node negative, 1-3 lymph node positive or have micrometastases in the lymph nodes

It is important that you have the test before you start any treatment. The test will provide additional information about your breast cancer and whether chemotherapy should be part of your treatment plan. The test would not be appropriate if you have already made a decision about chemotherapy.

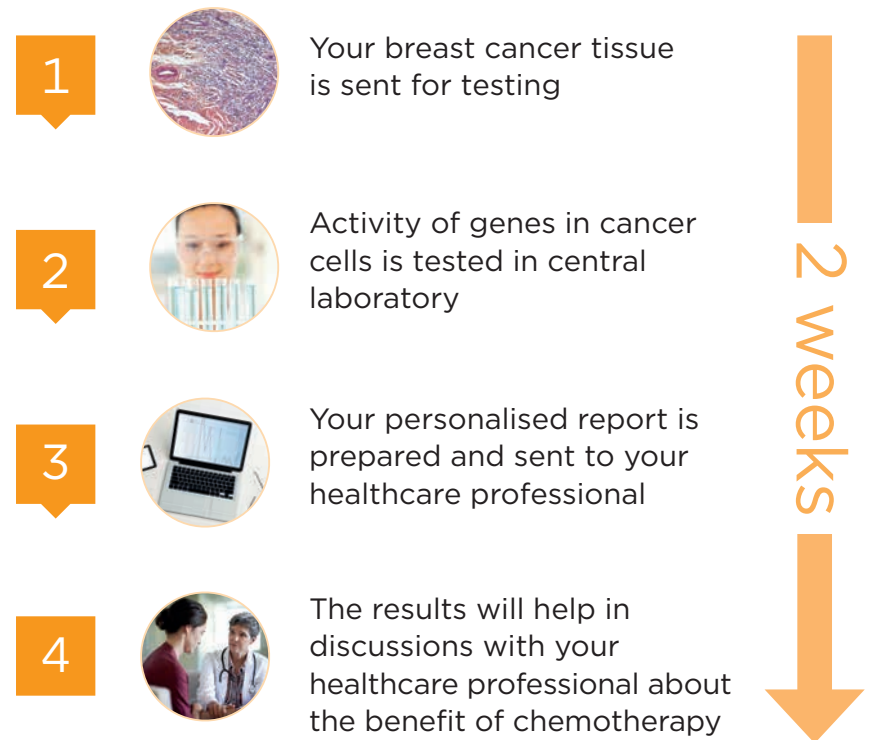


Joyce H.
"My Recurrence Score® result was one more piece of information that helped us make that decision. You want to get as many facts together as you can."

What happens when my healthcare professional asks for the Oncotype DX Breast Recurrence Score® test?

A small amount of breast cancer tissue that was either removed during your original surgery, or from a core biopsy, is selected by the pathologist and sent to a central laboratory for testing.^{3,4} Testing in a central laboratory ensures the quality assurance of the test result. The activity of genes in the cancer cells is analysed. After the gene activity analysis is complete, a written report is prepared and sent electronically to your healthcare professional via a secure password-protected online account. The whole process takes about 2 weeks.

The test includes your Recurrence Score® result. This will help in discussions you will have with your healthcare professional about the need for chemotherapy treatment. It adds to the information from routine testing in the local hospital laboratory.



Gail B.
"I wanted to do everything I could to try and prevent the cancer from returning. So when I saw the Oncotype DX® test results, I knew what I needed to do and felt more confident about my decisions regarding my treatment."

Understanding your Recurrence Score® result

The result of the Oncotype DX Breast Recurrence Score® test is called the Recurrence Score result, which can be any number from 0 to 100. The lower the Recurrence Score result is, the less likely you are to benefit from chemotherapy; the higher the Recurrence Score result is, the more likely you are to benefit from chemotherapy.

It is important to understand that a lower Recurrence Score result does not mean there is no chance that the cancer will return. Similarly, a higher result does not mean that chemotherapy will definitely prevent the cancer from returning.

The Oncotype DX Breast Recurrence Score test results also provide information such as activity levels of the oestrogen, progesterone and HER2 genes in the cancer for quality assurance purposes.

The Oncotype DX Breast Recurrence Score® test: clinical trials and practice guidelines

The test has been validated in multiple clinical trials, and **more than 900,000 people have used the test worldwide.**^{1,2,5-16}

Results published in 2018 from TAILORx, one of the largest adjuvant trials in ER-positive breast cancer with over 10,000 patients, showed that patients with Recurrence Score® results of 0-25 had favorable outcomes. Specifically, patients with Recurrence Score results between 11-25 treated with endocrine therapy alone had similar favourable outcomes to patients treated with chemotherapy followed by endocrine therapy.^{1,6,9,10}

In an exploratory analysis from this trial, it was shown that a small benefit of chemotherapy may exist for patients who are 50 years or younger and have a Recurrence Score result of 16-25.

Whatever your result or age, it is very important to discuss your Recurrence Score result with your clinician.¹⁰

The test is recommended by the UK's National Institute for Health and Care Excellence (NICE) and is incorporated in all major internationally accepted clinical practice guidelines for breast cancer treatment.¹⁷ NICE provides national guidance and advice to improve health and social care in England and Wales.



Angela Y.

"It was reassuring to know that the Recurrence Score result was based specifically on my tumour sample."

List of terms

Adjuvant treatment: Treatment following surgery. Where there is a risk that the cancer could spread to another part of the body, adjuvant treatment is used. This may involve chemotherapy, radiotherapy, hormone therapy or targeted therapies such as anti-HER2 therapy.

Cell: The smallest unit of a tissue that makes up any living thing. Cells have a very specialised structure and function.

Chemotherapy: Treatment with drugs to destroy or slow the growth of cancer cells.

Clinical trial: A research study where patients help scientists evaluate ways to prevent, detect, diagnose or treat diseases.

Early stage breast cancer: The cancer has not spread beyond the breast or the nearby lymph nodes under the arm.

ER (oestrogen receptor): A protein that may be present on certain cells to which oestrogen molecules can attach. The term 'ER-positive (ER+)' means a woman's cancer cells may be sensitive to, and respond to, hormone (endocrine) therapy.

Gene: The basic unit of heredity found in most cells of the body.

Genetics: The study of how characteristics (traits) are inherited from one generation to the next through the genes. These traits include physical characteristics (eg eye colour) and behavioural characteristics, including risk for disease/medical condition.

Genomic test: A test that looks at groups of genes and how active they are. This activity can influence how a cancer is likely to grow and respond to treatment.

Genomics: The study of complex sets of genes, their expression (level of activity) and their effects on biology.

HER2 (human epidermal growth factor receptor 2): A protein that appears on the cancer cells of some breast cancers. A woman whose tumour has greater than normal levels of HER2 is considered HER2-positive. A woman whose tumour has normal levels of HER2 is considered HER2-negative.

Hormone (endocrine) therapy: The use of specific drugs, such as tamoxifen or aromatase inhibitors, to reduce or regulate the production or effects of hormones in the body.

Invasive breast cancer: Cancer that has spread from where it started in the breast into surrounding, healthy tissue. This is the most common type of breast cancer.

Lymph nodes: Small bean-shaped organs (sometimes called lymph glands); part of the lymphatic system. Lymph nodes under the arm drain fluid from the chest and arm. During surgery, some underarm lymph nodes are removed to help determine the stage of breast cancer.

Lymph node-negative breast cancer: Breast cancer that has not spread to the lymph nodes.

Lymph node-positive breast cancer: Breast cancer that has spread to the lymph nodes. Additional information about the number of lymph nodes in which cancer has been found is usually provided as well as the size of the deposit in each node. **Micrometastases** are cancer cell deposits larger than 0.2 mm but not bigger than 2 mm, **macrometastases** are cancer cell deposits larger than 2 mm.

Progesterone receptor: A protein that may be present on certain cells to which progesterone molecules can attach. These cells are generally sensitive to (respond to) hormone (endocrine) therapy.

Radiotherapy: The use of radiation to destroy cancer cells. Radiotherapy may be used before or after surgery and is sometimes used in combination with chemotherapy. Radiotherapy is used for local control of the cancer at the site of the cancer.

Secondary (metastatic) breast cancer: When cancer spreads to other parts of the body and forms a new cancer made up of breast cancer cells.

Tumour: A lump or growth. A tumour can be malignant (cancerous) or benign (not cancerous).



Jan F.
"You want to get the best treatment that you possibly can to eradicate the cancer, and Oncotype DX[®] provides us with an indicator of what that best treatment will be."



My diary

Date _____ Notes _____

Date _____ Notes _____

Date _____ Notes _____

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Date _____ Notes _____

Acknowledgements

Genomic Health would like to thank the following breast cancer healthcare professionals for their contribution to this booklet:

Mrs Gill Donovan - Velindre NHS Trust

Dr Victoria Harmer - Imperial College Healthcare NHS Trust

Mrs Sue Holcombe - The Royal Liverpool and Broadgreen University Hospitals NHS Trust

Mrs Pauline McIlroy - NHS Greater Glasgow and Clyde

Mrs Maria Noblet - Portsmouth Hospitals NHS Trust

Miss Helen Roe - North Cumbria University Hospitals NHS Trust

Ms Nikki Snuggs - The Royal Marsden NHS Foundation Trust

Mrs Karen Verrill - Maggie's Newcastle, Freeman Hospital

Dr Mark Verrill - The Newcastle upon Tyne Hospitals NHS Foundation Trust

Mrs Rosey Whittle - South Eastern Health and Social Care Trust

If you would like to learn more about the Oncotype DX Breast Recurrence Score® test for invasive breast cancer, please visit www.oncotypeiq.com. You can also contact the Genomic Health Customer Support Team on 020 3031 8087 or at europesupport@genomichealth.com. To learn more about the company, please visit www.genomichealth.co.uk.

This guide is published by Genomic Health UK Ltd. Please note: Genomic Health is unable to advise you on your diagnosis or treatment plan. Such matters should be discussed with your healthcare professional.

The people shown in this booklet used the Oncotype DX Breast Recurrence Score test to help them make their treatment decisions.

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Anne-Marie M.

"I knew I would benefit from the treatment, and that made it less difficult to bear."



Susie R.

"The Oncotype DX® assay sealed the deal. Knowing I could make a game plan with some certainty helped me get back to normalcy."