This booklet is for people who would like more information about mucinous breast cancer. It describes what mucinous breast cancer is, its symptoms, how a diagnosis is made and possible treatments.
We hope that this booklet helps you to ask your specialist team questions and be involved as much as you want in decisions about your treatment.

We recommend that you read this publication with our booklet Treating breast cancer.

**What is mucinous breast cancer?**

Mucinous breast cancer is a rare type of breast cancer. It is often found alongside another type of breast cancer called invasive ductal breast cancer (also called ‘no special type’ or NST) and may then be referred to as ‘mixed’. Mucinous breast cancer accounts for fewer than 2% of all breast cancers. It’s a type of invasive breast cancer, which means it has the potential to spread from the breast to other parts of the body. However it is not common for this type of breast cancer to spread.

Mucinous breast cancer can occur at any age but it’s more commonly found in women over the age of 60. When a pathologist (doctor who examines tissue removed during a biopsy or surgery) looks at the cancer cells under a microscope, mucinous breast cancer is made up of ‘islands’ of cancer cells surrounded by mucus. These features help to distinguish it from other types of breast cancer.

Mucinous breast cancer generally has a better prognosis (outlook) than most other types of invasive breast cancer.

**How is mucinous breast cancer diagnosed?**

Mucinous breast cancer is diagnosed in the same way as other breast cancers by using a range of tests. These include a mammogram (breast x-ray) and/or an ultrasound scan, followed by a core biopsy or fine needle aspiration (FNA).

For more information about these tests, see our booklet Your breast clinic appointment.
How is mucinous breast cancer treated?

The features of your mucinous breast cancer will affect what treatments you'll be offered.

**Surgery**

Surgery is usually the first treatment for mucinous breast cancer. This may be:

- breast-conserving surgery, usually called wide local excision or lumpectomy, which is the removal of the cancer with a margin (border) of normal breast tissue around it
- mastectomy, which is the removal of all the breast tissue including the nipple area.

The type of surgery recommended depends on the position of the area affected, the size of the cancer relative to the size of your breast and whether there is more than one area in the breast affected. Your breast surgeon will discuss this with you.

Sometimes more surgery is needed if the margin of normal tissue surrounding the cancer removed during the first operation is not clear. This is to ensure that all the cancer has been removed. In some cases this second operation will be a mastectomy.

If a mastectomy is recommended, or if you choose to have a mastectomy, your breast surgeon will discuss the option of breast reconstruction with you. This can often be done at the same time as your mastectomy (immediate reconstruction) or months or years later (delayed reconstruction). For more information see our **Breast reconstruction** booklet.

Mucinous breast cancer is less likely to spread to the lymph nodes (glands) under the arm than most other types of breast cancer, particularly if the cancer is small or if it’s a pure mucinous breast cancer. However, your specialist team will want to check this as it helps them decide whether or not you will benefit from any additional treatment after surgery. To do this, your surgeon is likely to recommend an operation to remove either some of the lymph nodes (a lymph node sample or biopsy) or all of them (a lymph node clearance/axillary clearance).

Sentinel lymph node biopsy is widely used for people with breast cancer whose tests before surgery show no evidence of the lymph nodes containing cancer cells. It identifies whether or not the first lymph node
(or nodes) is clear of cancer cells. If it is, this usually means the other nodes are clear too, so no more will need to be removed.

If the results of the sentinel lymph node biopsy show that the first node or nodes are affected, you may be recommended to have further surgery or radiotherapy to the remaining lymph nodes.

Sentinel lymph node biopsy is not suitable if tests before your operation show that your lymph nodes contain cancer cells. In this case it’s likely that your surgeon will recommend a lymph node clearance.

For more information, see our Treating breast cancer booklet.

**What are the additional (adjuvant) treatments?**

After surgery, you may need other treatments. This is called adjuvant therapy and can include:

- chemotherapy
- radiotherapy
- hormone therapy
- targeted therapy.

The aim of these treatments is to reduce the risk of breast cancer returning in the same breast or developing in the other breast, or spreading somewhere else in the body.

Sometimes chemotherapy or hormone therapy may be given before surgery. This is known as neo-adjuvant or primary therapy.

**Chemotherapy**

Chemotherapy is a treatment using anti-cancer (also called cytotoxic) drugs, which aims to destroy cancer cells. It is known as a systemic treatment. Whether it is recommended will depend on various features of the cancer, such as its size, its grade (how quickly the cells are growing and how different they are to normal breast cells) and whether the lymph nodes are affected. It will also depend on the oestrogen receptor (ER) and hormone receptor (HER2) status (for more information on this see our Understanding your pathology report booklet).

For more information see our Chemotherapy for breast cancer booklet.
Radiotherapy
Radiotherapy is a treatment for cancer that uses carefully measured and controlled high energy x-rays. If you have breast-conserving surgery you will usually be offered radiotherapy to the breast to reduce the risk of the cancer coming back in the same breast. Sometimes you may be offered radiotherapy to the nodes under your arm.

Radiotherapy may be given to the chest wall following a mastectomy in some circumstances, for example if some of the lymph nodes under the arm are affected.

For more information see our Radiotherapy for primary (early) breast cancer booklet.

Hormone (endocrine) therapy
As the female hormone oestrogen can play a part in stimulating some breast cancers to grow, there are several hormone therapies that work in different ways to block the effect of oestrogen on cancer cells.

Hormone therapy will only be prescribed if your breast cancer has receptors within the cell that bind to the hormone oestrogen, known as oestrogen receptor positive or ER+ breast cancer. All breast cancers are tested for oestrogen receptors using tissue from a biopsy or after surgery. When oestrogen binds to these receptors, it can stimulate the cancer to grow.

If your cancer is oestrogen receptor positive, your specialist will discuss with you which hormone therapy they think is most appropriate.

When oestrogen receptors are not found (oestrogen receptor negative or ER-) tests may be done for progesterone (another hormone) receptors. The benefits of hormone therapy are less clear for people whose breast cancer is only progesterone receptor positive (PR+ and ER-). Very few breast cancers fall into this category. However, if this is the case for you your specialist will discuss with you whether hormone therapy is appropriate.

If your cancer is found to be hormone receptor negative, then hormone therapy will not be of any benefit.

For more information, see our Treating breast cancer booklet or our individual hormone drug factsheets.
Targeted therapies
(sometimes called biological therapies)
This is a group of drugs that block the growth and spread of cancer. They target and interfere with processes in the cells that cause cancer to grow.

The most widely used targeted therapy is trastuzumab (Herceptin). Only people whose cancer has high levels of HER2 (called HER2 positive) will benefit from having trastuzumab. HER2 is a protein that makes cancer cells grow.

There are various tests to measure HER2 levels which are done on breast tissue removed during a biopsy or surgery.

Mucinous breast cancer is likely to be HER2 negative. If your cancer is found to be HER2 negative, then trastuzumab will not be of benefit to you. For more information see our Trastuzumab (Herceptin) factsheet.

How you may feel
Being told you have breast cancer can be an anxious, frightening and sometimes isolating time. It can be particularly difficult to be diagnosed with a rare type of breast cancer such as mucinous breast cancer, as you may not meet any other people with exactly the same diagnosis as you. However, mucinous breast cancer is treated in the same way as other, more common types of breast cancer so you may also find it helpful to talk to others who have had similar treatments to you.

There are people who can support you so don’t be afraid to ask for help if you need it. You can let other people know how you are feeling, particularly your family and friends, so they can be more supportive. Some people find it helpful to discuss their feelings and concerns with their breast care nurse or specialist. If you’d like to talk through these in more depth over a period of time, a counsellor or psychologist may be more appropriate. Your breast care nurse, specialist or GP (local doctor) can arrange this.

You can also call Breast Cancer Care for information and support on 0808 800 6000.
Helping you face breast cancer

If you’ve been diagnosed with breast cancer there’s a lot to take in. It can be an emotional time for you, your family and friends. Our free information and support services are here to help – on the phone, or online 24 hours a day.

Ask us
Calls to our free Helpline are answered by specialist nurses and trained staff with personal experience of breast cancer. They’ll understand the issues you’re facing and can answer your questions. Or you can Ask the Nurse by email instead via our website.

Free Helpline **0808 800 6000** (Text Relay 18001)
Monday–Friday 9am–5pm, Saturday 10am–2pm
[www.breastcancercare.org.uk/ATN](http://www.breastcancercare.org.uk/ATN)

Expert information
Written and reviewed by healthcare professionals and people affected by breast cancer, our free booklets and other information resources cover all aspects of living with breast cancer. Download or order booklets from our website or call the Helpline.

Talk to someone who understands
Our Someone Like Me service puts you in contact with someone else who’s had breast cancer and who’s been fully trained to help. This can be over the phone or by email.

You can also chat to other people going through breast cancer on our online discussion Forum. It’s easy to use, professionally moderated and available to read any time of day.

Find out more about all of our services for people with breast cancer at [www.breastcancercare.org.uk/services](http://www.breastcancercare.org.uk/services) or phone the Helpline.
We’re here for you: help us to be there for other people too

If you found this booklet helpful, please use this form to send us a donation. Our information resources and other services are only free because of support from people such as you.

We want to be there for every person facing the emotional and physical trauma of a breast cancer diagnosis. Donate today and together we can ensure that everyone affected by breast cancer has someone to turn to.

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Please accept my donation of £10/£20/my own choice of £

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You can give using a debit or credit card at www.breastcancercare.org.uk/donate

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We might occasionally want to send you more information about our services and activities

☐ Please tick if you’re happy to receive email from us
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We won’t pass on your details to any other organisation or third parties.

Please return this form to Breast Cancer Care, Freepost RRKZ-ARZY-YCKG, 5–13 Great Suffolk Street, London SE1 0NS
About this booklet

*Mucinous breast cancer* was written by Breast Cancer Care’s clinical specialists, and reviewed by healthcare professionals and people affected by breast cancer.

For a full list of the sources we used to research it:

Phone 0345 092 0808  
Email publications@breastcancercare.org.uk

You can order or download more copies from www.breastcancercare.org.uk/publications

For a large print, Braille, DAISY format or audio CD version:

Phone 0345 092 0808  
Email publications@breastcancercare.org.uk
Breast Cancer Care is the only UK-wide charity providing specialist support and tailored information for anyone affected by breast cancer.

Our clinical expertise and emotional support network help thousands of people find a way to live with, through and beyond breast cancer.

Visit [www.breastcancercare.org.uk](http://www.breastcancercare.org.uk) or call us free on 0808 800 6000 (Text Relay 18001).

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