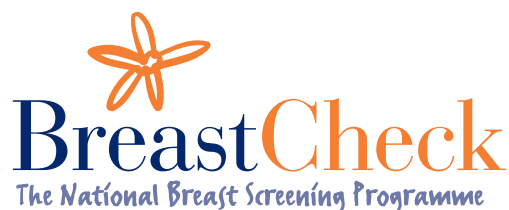


An Educational Package for General Practice



Irish Practice Nurses Association

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Authors

Women's Health Programme
Irish College of General Practitioners

Dr. Ailis Ní Riain
Dr. Claire McNicholas

Updates for third edition provided by
Dr. Naoimh Kenny

Contributors

Prof. Andrew Green, Director, National Centre
for Medical Genetics & Professor of Medical
Genetics, University College Dublin

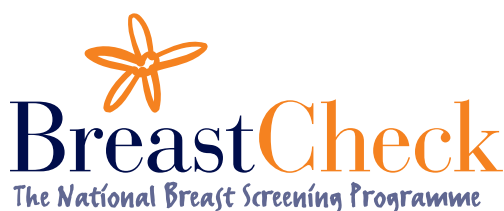
Dr. Gormlaith Hargaden, Consultant Radiologist,
BreastCheck

Mr. Maurice Stokes, Breast Surgeon, BreastCheck

Dr. Therese Mooney, Head of Programme
Evaluation Unit, National Cancer Screening
Service

Ms. Sheila Caulfield, Head of Communications,
National Cancer Screening Service

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Irish Practice Nurses Association

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Introduction

The prevention, diagnosis and treatment of cancer are major challenges for Irish society. Cancer, including breast cancer, is an illness that impacts on a large number of people from all socio-economic classes and backgrounds.

There are a number of positive developments currently taking place, including the second National Strategy for Cancer Control in Ireland¹, which presents a vision of an Ireland that will have a system of cancer control to reduce cancer incidence, morbidity and mortality rates relative to other EU countries by 2015. The planning and implementation of the national cancer control programme is underway and involves a restructuring of the delivery of cancer care services in Ireland, with eight hospitals across the country designated as specialist cancer centres. Furthermore, recommendations in the Health Information and Quality Authority's National Quality Assurance Standards for Symptomatic Breast Disease Services, launched in May 2007, contain standards for specialist breast centres in terms of personnel, equipment and facilities and aim to improve the quality of care for women with breast disease in Ireland.

BreastCheck – The National Breast Screening Programme has provided over 164,000 initial screenings and 145,000 subsequent screenings to women since the beginning of the programme in 2000. Overall, in excess of 2,050 cancers have been detected.

BreastCheck, which is part of the National Cancer Screening Service, has increased awareness of breast disease and breast cancer. Inevitably, with the rising incidence in breast cancer, the workload of general practitioners (GPs), practice nurses (PNs) and the symptomatic services has increased.

Breast cancer is one of the most common fatal cancers in women, and the incidence of the disease is increasing. Breast cancer is a complex disease whose natural history is not fully understood. It cannot currently be prevented, and there is no certain cure. Early detection and appropriate treatment have, however, been shown to improve a woman's outcome. Prospects for long-term survival and cure, as well as improved quality of life, are increasing.

The distinction between screening and diagnostic/symptomatic services is important. Breast screening is for women who are apparently well and for the detection of asymptomatic cancer. The aim of the symptomatic services is to investigate and treat women with breast complaints using designated specialist breast centres.

The aim of the BreastCheck programme is to reduce deaths from breast cancer by up to 20% over 10 years. To achieve this, the following key components must be addressed:

- Identification and recruitment of the eligible population
- Ongoing promotion and education
- Provision of a high-quality mammography service
- Notification and explanation of results
- Appropriate management of those with abnormal mammography results
- Ongoing co-ordination, monitoring and evaluation.

Input is required from different professional groups to successfully address these issues. The contribution and co-operation of GPs and PNs is essential for the continued success of the programme. Since the commencement of the programme, uptake rates have constantly exceeded the target 70% rate. However, constant emphasis is placed on encouraging maximum uptake, and this can only be achieved with our partners in the wider healthcare arena, including GPs and PNs.

Women will want to make their own decisions about screening. To do so, they will seek out accurate information and impartial advice. Many women will turn to their health professional. Therefore, GPs and PNs will benefit from an understanding of the BreastCheck programme and the current management of breast disease. This information pack is intended to meet these needs and so has been prepared in co-operation with the Irish College of General Practitioners and the Irish Practice Nurses Association.

Reference

1. National Cancer Forum (2006) *A Strategy for Cancer Control in Ireland* [online], available:

BreastCheck Overview

BreastCheck – The National Breast Screening Programme commenced in February 2000 in the east of the country. National expansion into the western and southern counties commenced in December 2007.

There are four static screening units in the country – two in Dublin, one in Galway and one in Cork. A fleet of mobile units brings the service to women living in counties further away from the static units.

Consent and Invitation

BreastCheck has compiled a population register for the purposes of notifying women about the breast screening programme. The register is continually updated as women become eligible to be registered.

Women on the register are sent a BreastCheck information leaflet and consent letter. Those who consent to screening are sent an invitation on an area-by-area basis.

Self-Registration

Women can check if they are on the BreastCheck register by calling the freephone information line 1800 45 45 55 or checking online on the BreastCheck website www.breastcheck.ie. Women can self-register online or by completing a registration form.

Exclusion Criteria

A woman is excluded from the screening programme if she is under 50 and over 65 years of age (to be extended to 69 in the coming years), has already had mammography within the past 12 months, has undergone a bilateral mastectomy, has acute symptoms such as breast mass or breast discharge or has familial history of breast cancer whereby assessment and/or treatment have been provided elsewhere.

Results

Results are sent to women and copied to their GPs within three weeks of screening. The vast majority of results are normal. Women whose results are normal are invited for repeat screening in two years' time. Women whose results are abnormal are asked to attend an assessment clinic within two weeks of receiving their results.

If an abnormality is still suspected, a core or needle biopsy may be required. The biopsy result is discussed with the woman within one week of the assessment and a letter is sent to her general practice. If admission is required, the woman is offered a hospital bed within three weeks.

The BreastCheck Women's Charter

The BreastCheck Women's Charter (Appendix C) was developed to inform women of what to expect from the programme. The charter outlines the commitments and parameters of service delivery, most of which have been met or exceeded by BreastCheck.

Quality Assurance

BreastCheck implements high-level service standards and quality assurance systems to ensure the delivery of a safe and effective service to women. Quality assurance measures include setting national standards against which the programme is measured, optimising the acceptability of the programme, ensuring high-quality mammography, employing specialist BreastCheck multidisciplinary teams to deliver state-of-the-art treatment and developing an advanced information system.

Role of the General Practitioner and Practice Nurse

The success of BreastCheck depends to a large extent on the active involvement of general practitioners and practice nurses. GPs and PNs are involved and influential in:

- Encouraging self-registration
- Advising those excluded from BreastCheck
- Encouraging participation in the programme by all eligible women
- Explaining the BreastCheck process and screening procedure
- Providing support for patients awaiting results, recall or treatment
- Responding to patient complaints and offering mediation
- Reporting interval cancers to BreastCheck
- Encouraging women to report any change of address to BreastCheck
- Directing further queries to the BreastCheck freephone information line.

Women under 50 Years of Age

Because of the lower prevalence of breast cancer in women under 50 and the limits of mammography screening, it is not currently considered effective to offer screening in this age group. However, mammography has a role to play in the diagnosis of younger women who are symptomatic. These women should be referred to a specialist breast centre for assessment and management. Women under 50 years who have a family history of breast cancer may benefit from mammography at an earlier age (see section 3.6, Familial Breast Cancer).

Women Aged 50–64 Years

Breast cancer incidence peaks between 50 and 64 years of age, and the current BreastCheck screening programme is targeted at this age group.

Women Aged 65–69 Years and Age Range Extension

Women over 65 who have been attending the BreastCheck programme should be encouraged to continue liaising with their GP on a regular basis as their GP may continue to send them for regular mammograms.

BreastCheck puts considerable effort into maintaining the ongoing screening and quality standards of the programme. Following expansion of the programme, the upper age limit will be extended in the coming years to 69 years of age.

Women over 70 Years of Age

Statistically, a second peak incidence of breast cancer occurs after the age of 70 years (see Figure 2 in section 3.1, Epidemiology of Breast Cancer). However, mortality from these cancers is lower than for younger women, and women over 70 years are excluded from the BreastCheck screening programme.

Women over 70 years should be encouraged to liaise frequently with their practitioner regarding concerns they may have. GPs should continue to send these women for mammography to local radiological services if they feel it is clinically warranted.

Section 1

BreastCheck – The National Breast Screening Programme

Section 1

BreastCheck – The National Breast Screening Programme

- The breast screening programme originally commenced in the east of the country in February 2000 and began offering a second round of screening in some parts of the east in 2002. The service was extended to parts of the south east with the commencement of screening in Wexford in March 2004, Carlow in April 2005 and Kilkenny in May 2006.
- The data received is standardised and duplications are removed.
- The register is regularly updated to include women who become eligible for screening.

- In May 2005, the Minister for Health and Children, Mary Harney T.D., gave approval for the capital expansion programme. National expansion into the western and southern counties commenced in December 2007. The total screening population in these counties is in excess of 150,000.
- There are four static screening units in the country, two in Dublin and two newer units in Galway and Cork. The majority of women receive their mammograms through mobile units, which are deployed sequentially to bring the service to counties further away from the static units.
- In 2006, BreastCheck screened 63,271 women. The rate of overall acceptance of invitation to screening was 78.1% of eligible women, an increase on the number of invitations accepted in 2005 and above the programme target of 70%. Of the 63,271 women screened in 2006, 1,903 were recalled for assessment. Three-hundred and thirty-seven of those women recalled were diagnosed with breast cancer, representing 5.3 cancers per 1,000 women screened compared to 5.3 in 2005 and 6.1 in 2004.

Registration

Target Population

- The target population is approximately 344,000 women aged 50–64 years.
- A population register has been compiled from a number of sources, mainly from data from the General Medical Services (GMS) Scheme, the Department of Social and Family Affairs, the private health insurance companies and self-registration.

Self-Registration

- Because the BreastCheck register is incomplete, self-registration is an important part of the programme.
- Women can see if they are on the BreastCheck register by calling the freephone information line 1800 45 45 55 or checking online at www.breastcheck.ie.
- Women can self-register online or by completing a registration form.
- Registration forms are freely available from GP surgeries, pharmacies and other community settings or on request from BreastCheck.
- Women with special needs are asked to alert BreastCheck so that additional time can be allowed for screening.

Possible Issues with the Register

- Because of duplication on the register, the same woman may be invited a number of times. If this occurs, affected women should notify BreastCheck so that the register can be corrected.
- Regrettably, letters of invitation may go out to women who have died, who have had bilateral mastectomies or who are seriously ill. Every effort is made by BreastCheck to avoid this.

The Screening Procedure

Consent to Participate

- A letter seeking consent to participate (Appendix A) and the *About breast screening* information leaflet are sent to each woman on the register.
- The consent letter enables a woman to opt out of the BreastCheck programme if she so wishes.
- The consent letter requests the woman to convey her decision to opt out in writing.
- Consent letters are issued on an area-by-area basis (based on electoral areas) and only when a particular area is being targeted.

Invitation

- An invitation to appointment letter (Appendix B) to attend a mammogram at a BreastCheck screening unit or a mobile unit at a set time in a specific location is sent to those women who do not opt out.
- A woman can change her appointment by contacting the specialist unit and is encouraged to do so if the original appointment is not suitable.
- The telephone number for changing appointments is included in the appointment letter.
- Invitations are issued only when a particular area is being targeted.
- Women who fail to attend are issued with one further invitation.

Exclusion Criteria

- Aged under 50 years and over 65 years*
- Has already had mammography within the past 12 months
- Bilateral mastectomy undertaken
- Acute symptoms such as breast mass or breast discharge (these women should be referred to a specialist breast centre or symptomatic unit for assessment and management)
- Familial history whereby assessment and/or treatment are provided elsewhere

The Screening Unit

All BreastCheck screening units are fully accessible to people with disabilities; women are requested to advise of any special needs in advance.

The Mammogram

On arrival at the screening unit, each woman has a two-view mammography examination. Each breast is x-rayed from the side and from the top by a professionally trained radiographer.

Results**

Normal Result

- Normal results are sent to the woman within three weeks.
- The woman's GP receives a copy of the results – these are sent in batches.
- An invitation to re-attend for screening is sent to the woman at two-yearly intervals.

* Following the national expansion of the breast screening programme, the National Cancer Screening Service Board (formerly the National Breast Screening Board) has agreed that the upper age limit will be extended in the coming years to 69 years of age in accordance with the European Parliament resolution on breast cancer in the European Union (2002/2279(INI)).¹

** While every effort is made to deliver within the specified time limits, there may be unforeseen circumstances that make this difficult or impossible to achieve. In such circumstances and where possible, contact is made with the woman in question.

Abnormal Result

- Abnormal results are sent to the woman within three weeks.
- The woman's GP receives a copy of the results.
- A woman with an abnormal mammogram is recalled for assessment at one of the BreastCheck screening units within two weeks of receiving her result.
- If no abnormality is confirmed, she is informed of this result.
- If an abnormality is still suspected, a core or needle biopsy may be required.
- The result of the biopsy is discussed with the woman within one week of the assessment, and a letter is sent to her GP.
- If admission is required, she is offered a hospital bed within three weeks.

Surgical Treatment

If a screen-detected lesion requires surgical treatment, it is desirable that this would be carried out at one of the hospitals attached to the screening units. This ensures a standardised approach to the management of all screen-detected cancer, thereby enabling a more reliable interpretation of the effects on mortality and morbidity.

If follow-on treatment is recommended by the oncologist, such as radiotherapy, the woman's ongoing management is then looked after by the symptomatic unit affiliated with the screening service.

BreastCheck Screening Units

In Dublin, the Eccles Unit is adjacent to the Mater Misericordiae University Hospital and the Merrion Unit is adjacent to St. Vincent's University Hospital. The two newer screening units are the Western Unit located at the rear of the University College Hospital campus in Galway and the Southern Unit located adjacent to the South Infirmary Victoria University Hospital in Cork. A fleet of mobile units is deployed sequentially to bring the service to women living in counties further away from the static units. The majority of women receive their mammograms through the mobile units.

Staffing of Screening Units

Every effort is made to make the environment in the screening units as friendly and relaxed as possible.

The specialist unit team includes:

- Reception staff
- Radiographers
- Breast care nurses
- Radiologists
- Surgeons
- Pathologists
- Administrative staff

Each mobile unit is staffed by two radiographers.

Quality Assurance

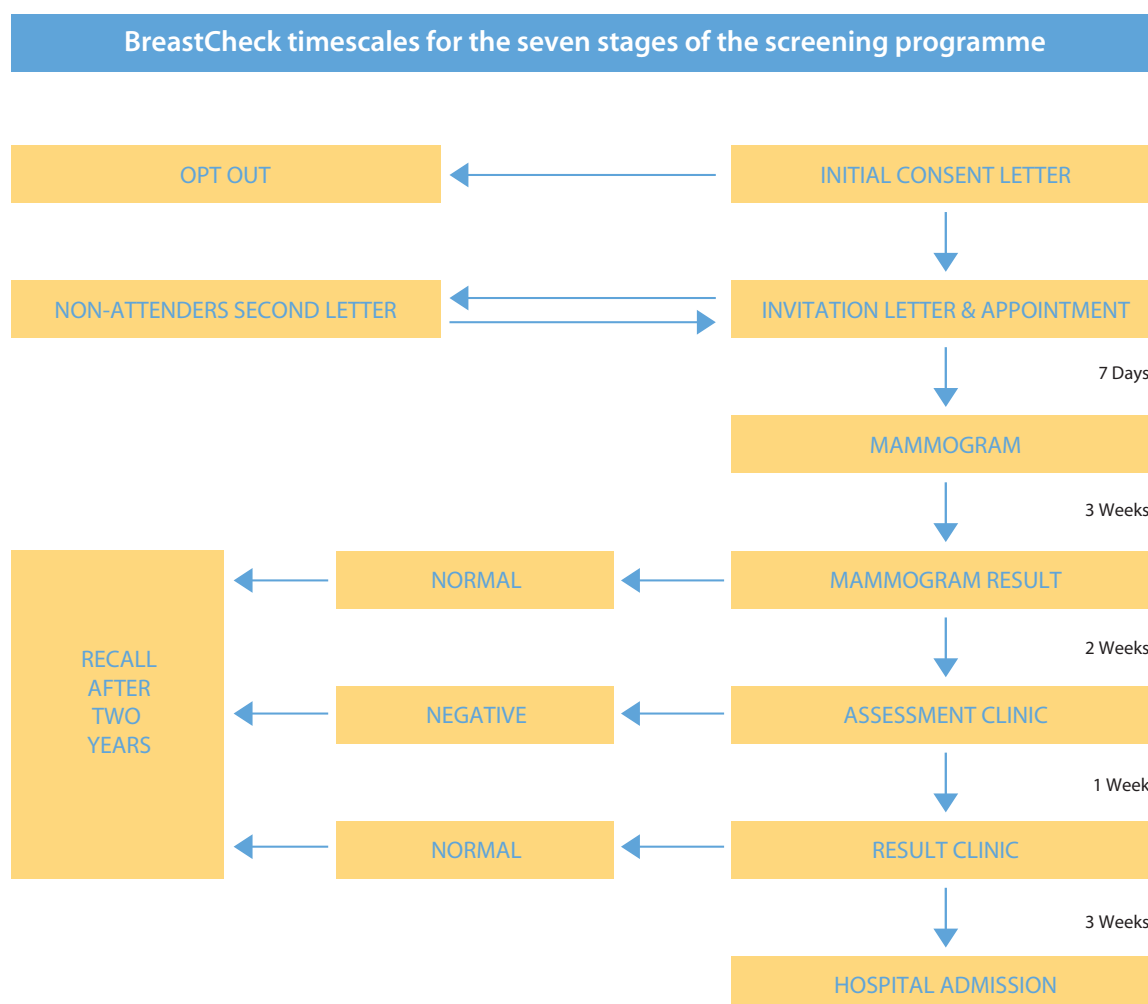
Service standards and quality assurance systems are in place throughout BreastCheck. These high-level standards aim to deliver a safe and effective service and are in line with international guidelines to ensure that the best service is provided to women.

Quality assurance measures include:

- Setting national standards against which the programme is measured
- Optimising the acceptability of the programme
- Ensuring high-quality mammography and mammograms read independently by two specially trained radiologists
- Managing and auditing mammography equipment
- Delivering state-of-the-art treatment including a specialist BreastCheck multidisciplinary team
- Developing a high-quality information system
- Managing quality systematically

To achieve its target reduction in mortality, BreastCheck clearly outlines its targets and devises protocols to allow them to be fulfilled. The programme is evaluated on a continual basis, and quality management principles are applied to all elements.

Screening Process Flow Sheet



The BreastCheck Women's Charter

The BreastCheck Women's Charter (Appendix C) was developed to inform women of what to expect from the programme. The charter outlines the commitments to and parameters of service delivery. It also encourages women to give feedback to BreastCheck for ongoing quality improvement.

BreastCheck Performance to Date

As outlined in the BreastCheck Annual Report 2006/2007² and indicated in Table 1, most parameter targets specified in the BreastCheck Women's Charter have been met or exceeded.

Table 1: BreastCheck Results Based on Adherence to the Women's Charter for Women Invited for Screening in 2006

Performance Parameter	2006	Women's Charter Target Standard
% women who received 7 days' notice of appointment	98.2%	≥90%
% women who were sent results of mammogram within 3 weeks	97.1%	≥90%
% women offered an appointment for assessment clinic within 2 weeks of notification of abnormal mammographic result	95.6%	≥90%
% women given results from assessment clinic within 1 week	90.1%	≥90%
% women offered hospital admission for treatment within 3 weeks of diagnosis of breast cancer	94.4%	≥90%
% women re-invited for screening within 27 months of invitation at previous round	88.3%	≥90%
% women eligible for screening invited for screening within 2 years of becoming known to the programme	61.6%	≥90%

The following table provides figures for women screened and cancers detected in 2005 and 2006 and gives total figures since 2000.

Table 2: BreastCheck – Performance to Date

Number of women screened (based on women first invited in the time period)	2005	2006	2000-2006
Number of women receiving first screening	18,857	19,527	164,619
Number of women receiving a subsequent screening	41,103	43,744	145,546
Overall number of cancers detected	318	337	2,059
Overall acceptance rate	74%	75%	

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Section 2

General Practice and Breast Screening

Section 2

General Practice and Breast Screening

2.1

The Role of the General Practitioner and Practice Nurse

Table 3: Practical Contributions of General Practitioner and Practice Nurse

INFORMATION AND SUPPORT

- Be aware of screening procedures
- Answer general enquiries
- Encourage positive attitudes towards breast screening
- Explain the need for breast awareness
- Advise ineligible women
- Discuss the implications of recall for further assessment
- Discuss the implications of a biopsy
- Discuss treatment options

UPTAKE

- Facilitate self-registration
- Encourage attendance
- Check age/sex register of practice
- Provide practical advice
- Help allay fears and anxiety
- Discuss screening with non-attendees

QUALITY

- Improve acceptability of Programme
- Channel patient feedback/complaints
- Evaluate GP/PN involvement
- Report interval cancers
- Liaise frequently with screening units about factors which influence screening
- Provide assurance that quality management applies to all aspects of the Programme

Adapted from Austoker¹

The active involvement of GPs and PNs is required to help BreastCheck achieve its target reduction in mortality. They and their staff can help to improve the quality of the programme, increase the uptake and provide information and counselling related to all aspects of it.¹

The attitude of GPs and PNs to breast screening is critical in influencing women to participate. In general, active recruitment strategies, such as verbal encouragement, can increase the attendance rate of women invited to a community breast cancer screening service.²

In Australia, simple recommendations from the GP have been shown to be as effective as intensive health education intervention.³ Attendance for screening mammography in the USA strongly correlated to encouragement by a doctor or nurse.⁴ Conversely, most non-attenders in the USA reported not having received a recommendation from their doctor to attend for mammography.⁵

It has been shown that non-attenders in the UK were significantly more likely to attend for screening after the second invitation if the invitation was accompanied by a letter from their GP.^{6, 7, 8} The 'doctor-effect' has been shown to be strongest on women from lower socio-economic groups (who also have the lowest attendance rates).⁹

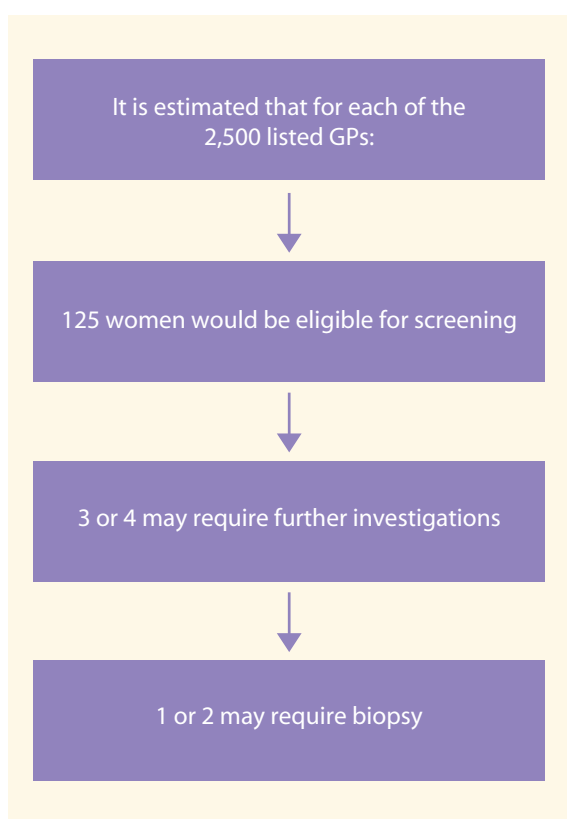
Research undertaken by the Irish College of General Practitioners showed that GPs involved in phase one of the BreastCheck programme are willing to discuss breast screening with their patients.¹⁰

Mammography is offered with the promise that it will do women good and with the implicit understanding that it will cause them little harm. GPs must be sensitive to the anxiety caused by the screening process, including false positive and false negative results.

GPs should be prepared to help allay patients' fears and discuss the implications of recall and further diagnostic tests.

Above all, GPs should be aware of the impact of a diagnosis of breast cancer. The likelihood that it would have become a symptomatic finding at a later stage will not necessarily console a woman when the bad news is first broken to her.

Figure 1: Estimation of Workload Implications for General Practice



Original graph adapted from Austoker¹

There are approximately 344,000 women aged 50–64 years living in Ireland (CSO 2007). This equates to approximately 125 women per practising GP who are eligible for the BreastCheck screening programme (adapted from CSO 2008 and ICGP database).

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2.2

Common Questions

Below are answers to questions commonly asked by women of general practitioners and practice nurses.

Reasons for Screening

Why screen for breast cancer?

Currently, the only way to reduce the number of deaths from breast cancer is to detect the cancer at an early stage, preferably before it can be felt.

Why am I being invited?

A cancer can occur at any time and between screenings. Although there are a number of cancers that cannot be found by a mammogram, regular screening means that possible changes will be found as early as possible. At this stage, treatment of breast cancer is likely to be less extensive and have a more successful outcome.

All women aged 50–64 years known to BreastCheck are invited to attend for a mammogram every two years.

The Screening Procedure

How often should I be screened?

You will be invited to come back for screening every two years until you are 65. Screening is for women without symptoms. If you have any concerns or symptoms, you should visit your general practice.

How can I change my appointment?

If you cannot keep the appointment that has been arranged for you, please telephone your screening unit directly and try to give at least two days' notice. The telephone number is given on your invitation letter.

Where is the screening done?

Depending on where you live, the screening will be carried out at a BreastCheck screening unit or at the mobile unit nearest your home.

How long will the visit take?

From arrival to departure, the entire appointment usually takes about half an hour.

What clothes do I need to wear?

Since you will have to undress your upper body, it is a good idea and more practical to wear a skirt or trousers and a top.

Is the service accessible if I have a disability?

The service accommodates women with special needs. All BreastCheck screening units are fully accessible. You are asked to alert BreastCheck in advance of any special needs you may have so that additional time can be allowed for your appointment. Please advise BreastCheck if any of the following applies to you: deafness, blindness, wheelchair user or intellectual disability. Additionally, please advise if you have breast implants in situ.

The Mammogram

What is a mammogram?

A mammogram is a special x-ray used to take pictures of the breast. Each breast is x-rayed from the side and from the top by a professionally trained radiographer.

How safe is the mammogram?

The dose of radiation used is small and within recommended limits and in line with international guidelines.

Will it hurt?

Maybe, but only for a very short time while each breast is held firmly in position as the x-ray is taken, just enough so the breast tissue can be seen on the mammogram. Pressing your breasts for a few seconds is not harmful and minimises the x-ray dose. It may feel uncomfortable, like getting your blood pressure checked.

Results

When will I get my results?

You will get your results within three weeks. As a safety measure, every BreastCheck mammogram is read independently by two specially trained radiologists. The results will be sent to your home address. Your GP will also receive a copy of your results.

What sort of results might I expect?

The vast majority of results are normal. In the likely event that your results are normal, you will be invited to attend for a routine repeat mammogram in approximately two years' time.

However, some mammograms need to be re-examined, either because the picture is unclear or because some part of the breast needs closer examination. Should this happen in your case, you will be asked to attend an assessment clinic. In most cases, these further examinations are normal.

The Assessment Clinic

Can I bring someone with me to the assessment clinic?

If you would like to bring someone with you to the clinic, please do so. The visit will normally last longer than the mammogram appointment, so allow a full morning or afternoon.

What will happen at the assessment clinic?

You will have some further tests such as:

- A repeat mammogram, and possible additional images taken
- A clinical examination (a doctor will examine your breasts)
- An ultrasound examination of the breast (which is a safe and painless procedure to provide a different picture of the breast tissue)
- A biopsy (which involves removing a tiny sample of breast tissue for microscopic examination)

A specialist BreastCheck multidisciplinary team will provide the assessment service. The team may comprise consultants and medical staff including anaesthetists, histopathologists, radiologists, surgeons, radiographers and breast care nurses.

How will I know the results of the assessment clinic tests?

Some of the test results may be available before you leave the clinic. All the results will be available at the results clinic, which will generally be arranged within a week.

Special Cases

What if I had breast cancer in the past – should I go for screening?

Yes, unless you are having mammography as part of your follow-up.

What if I had a mammogram done within the last year?

Contact the Programme and they will advise you. BreastCheck does not screen women twice within a 12-month period. Therefore, if you have been screened in the last 12 months, you should wait until 12 months have passed since this last mammogram and then contact the programme.

What if I have had breast implants or breast reduction in the past?

You are still advised to attend for your routine screening mammogram. Please advise in advance if you have breast implants so that additional time can be provided for the screening appointment.

Why was I not invited for screening?

- You may be eligible but your name is not on the register.
- Screening in your area has not yet commenced.
- You are under the age of 50 (see section 2.3, Troubleshooting – Common Concerns).
- You are 50 but BreastCheck is not currently screening in your area.
- You are over the age of 65 (over the age of 69 years following age range extension).

The Register

Why am I not on the register?

BreastCheck's population register is continually updated as women become eligible for screening. However, the register will not identify all women aged between 50 and 64 years. If you think you are eligible and have not been contacted, you can register yourself. You will then be offered an appointment to attend for a mammogram in due course.

How Can I Register Myself?

- You can see if you are on the BreastCheck register by calling the freephone information line 1800 45 45 55 or checking online on the BreastCheck website www.breastcheck.ie.
- You can self-register online or by completing a registration form. These forms are available on request from BreastCheck or at GP surgeries, pharmacies and other community settings.

Breast Self-examination

Is there any benefit from examining my own breasts?

There is no evidence to suggest that formally examining your breasts every month is of any benefit in the early detection of breast cancer. However, you should know what is normal for you and, if you are still menstruating, what variations occur throughout the cycle. If you become aware of any unexpected change or symptoms, you are encouraged to visit your GP practice immediately, even if you had a recent mammogram.

It is important to emphasise that, for a variety of reasons, many women choose not to examine their own breasts. GPs and PNs need to be sensitive to this.

A practice nurse can educate and advise women in breast awareness and breast self-examination in line with their Scope of Nursing and Midwifery Practice Framework.¹ The nurse should have undertaken appropriate education to equip him/her with the required knowledge and skills to provide women with this service in the general practice setting. It is currently not within the scope of practice of the PN to undertake clinical breast examination; therefore, the PN should refer women who require this examination to their GP.

Who do I contact if I find changes?

If you either see or feel any abnormality, you should contact your GP or PN as soon as possible. He or she can organise any further investigations that may be considered necessary.

Being Breast Aware

Simple points for all women:

- Know what is normal for your body
- Know what changes to look and feel for

Changes you should look and feel for:

- Any lumps or thickening in your breast
- Skin – dimpling, puckering or redness
- Nipple – pulled-in or flattened
- Around the nipple – rash, flaky or crusted skin
- A change in the size or shape of your breast
- Swelling in your armpit or around your collarbone
- Constant pain in one part of your breast or armpit

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2.3

Troubleshooting – Common Concerns

This subsection addresses some common concerns that general practitioners and practice nurses may have.

Rationale for Screening

Why screen at all?

Mammography is the best available option in screening for breast cancer. Increasing age is the strongest risk factor for developing breast cancer. There is considerable evidence that international mammography screening programmes reduce mortality from breast cancer.

Why not screen women under 50 years of age?

Breast cancer incidence in the 40–49 age range is approximately 50% lower than that for the 50–59 age range. However, the proportion of female deaths due to breast cancer is broadly similar in both age groups.¹ Despite lower mortality from breast cancer at younger ages, the effectiveness of screening below age 50 remains an important issue.

The effectiveness of mammographic screening was established principally from randomised controlled trials on women aged 50 or older. Several randomised controlled trials were carried out in younger age groups but lacked sufficient statistical power to detect significant reduction in mortality among the intervention arm.^{2, 3} In 1991, the UK NHS set up a large randomised controlled trial to measure the effectiveness of screening women from age 40.⁴ The trial is ongoing, and interim results indicate that a reduction in breast cancer mortality in the intervention arm is likely to be observed. However, the size of the reduction is uncertain and awaits further follow-up.⁵

Why not screen women over 65 years of age?

Breast cancer incidence peaks between 50 and 64 years of age (see Figure 2 in section 3.1, Epidemiology of Breast Cancer) and the current screening programme is targeted at this group. A second peak in incidence is seen in patients over the age of 65.

The National Cancer Screening Service Board intends extending the upper age limit to 69 years of age in the coming years.

Why not screen women over 70 years of age?

Breast cancer incidence has a second, slightly smaller peak over the age of 70 years. However, the benefit of mammography in women over 70 years is not clearly defined because of the smaller number of women in this age category traditionally enrolled in screening trials. An analysis of four randomised trials in Sweden showed a non-significant reduction in mortality from breast cancer in women aged 70–74 years who underwent mammographic screening.⁶

Because of the results of such trials, women over 70 years are excluded from the BreastCheck programme. However, women over 70 years should still be encouraged to liaise frequently with their medical practitioner for routine examinations and regarding any concerns or symptoms they may have. GPs should still refer these women for mammography if they think it is clinically warranted.

What are the guidelines for women with a strong family history of breast cancer?

Approximately 5% of all breast cancer cases are familial. The needs of women who may be affected are not addressed by BreastCheck because screening for these individuals may need to begin at an earlier age. Their needs are best met by referral to specialist breast cancer services. (See section 3.6, Familial Breast Cancer.)

What if a woman has a clinical symptom?

It is inappropriate to refer a woman with a breast symptom to her local BreastCheck screening unit. Screening is aimed at asymptomatic women aged between 50 and 64 years. Women with symptoms should be referred to a specialist breast centre.

Mammography

Are there any risks associated with the radiation exposure in mammograms?

Any exposure to radiation can increase the relative risk of cancer. In the case of mammography, the increase is very small and, overall, the potential benefit outweighs the risk.⁷

What effect does HRT have on mammography?

The same guidelines for mammography apply whether a woman is on HRT or not. However, HRT may make the breasts appear denser and the sensitivity of mammographic screening may be reduced.⁸

What if a woman has had breast augmentation or reduction in the past?

Women who have had breast augmentation with implants (saline, silicone) are advised that mammography is the most suitable screening tool available for them, and they should be encouraged to attend at usual intervals. In an asymptomatic (screening) population, there is evidence to suggest that breast augmentation decreases the sensitivity of mammographic screening for breast cancer. Despite diminished sensitivity, however, the presence of breast implants appears not to influence prognostic characteristics of tumours. If implants impair mammography, they appear to facilitate detection of palpable breast cancers on physical examination.⁹ There is a very tiny risk of damage to in-situ implants during the mammogram.

Women who have had surgical breast reduction are encouraged to attend for mammographic screening at usual intervals.

What further investigations may be required following an abnormal mammogram?

It is necessary that women with abnormal mammograms are appropriately assessed and treated with the minimum of delay. All women called for further assessment attend one of the clinical screening units where a multidisciplinary team will evaluate screen-detected abnormalities. Diagnostic techniques include clinical examination, additional mammography, ultrasound and possibly a core biopsy. Only a small number of women will need to proceed with a biopsy, while even fewer may require an MRI.

If a woman does not wish to attend a BreastCheck unit, she should be referred urgently in the ordinary way to the specialist of her choice. At the same time, it is crucial that BreastCheck is informed so that all necessary information can be passed on.

Interval Cancers

What are interval cancers?

Cancers diagnosed in women who have had a normal mammogram in the previous two-year period are known as 'interval' cancers. By definition they only occur in screened women. Interval cancers are an inevitable part of any screening programme as no screening test is 100% perfect. For this reason, it is essential to refer any woman with a new breast lump for assessment regardless of a previously negative mammogram report. The odds of having an interval cancer is slightly increased for HRT users.⁸

The BreastCheck programme regularly audits all possible interval cancers as they are important surrogate measures of the quality of a screening programme. Rates are reported as Year 1 and Year 2 interval cancer rates of the programme, per 1,000 women screened. For BreastCheck these standards equate to <0.75 per 1000 women screened (Year 1) and <1.25 per 1000 women screened (Year 2).¹⁰

How should women be warned about interval cancers?

Mammography does not prevent breast cancer. Its purpose is to find cancer at an early stage, even before it can be felt. Mammography is currently the best test available. A normal result means that cancer is very unlikely to be present at the time of the test.

A woman should be encouraged to consult her GP or PN if she feels a new lump in her breast, even if a recent mammogram was normal. If a new cancer that cannot be felt develops between one screening and the next, there is a good chance that the next mammogram will detect it at an early stage.

Why are interval cancers important to BreastCheck?

While interval cancers are an inevitable part of any screening programme, their incidence should be monitored and all attempts should be made to keep them to a minimum. For BreastCheck quality assurance purposes, it is important that GPs and PNs alert the programme of all interval cancers. It is also essential that all women with interval cancers undergo pre-operative mammography.

Breast Self-examination

What about breast self-examination/breast awareness?

There is no evidence to suggest that routine monthly breast self-examination that follows a set technique reduces mortality from breast cancer.¹¹ Paradoxically, most breast cancers are found by women themselves. It is therefore suggested that this casual detection can be optimised by encouraging breast awareness.

Breast awareness is about knowing what is normal for the individual woman and the variations that occur throughout the cycle. Women are then encouraged to report promptly any variation from the norm to their GP. Some women will ask to be taught breast self-examination. Others, for a variety of reasons, do not self-examine and will choose not to examine their own breasts. GPs and PNs need to be sensitive to this.

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Section 3

Breast Disease

Section 3 Breast Disease

3.1

Epidemiology of Breast Cancer

Breast Cancer Mortality

In 2004, nearly 28% of all deaths in Ireland were due to cancer (7,909/28,665).¹ Breast cancer accounted for 666 deaths (663 female, 3 male) (2% of all deaths) and 18% of deaths due to cancer in Irish women.

Breast cancer is one of the most common causes of death from cancer among women in Ireland.

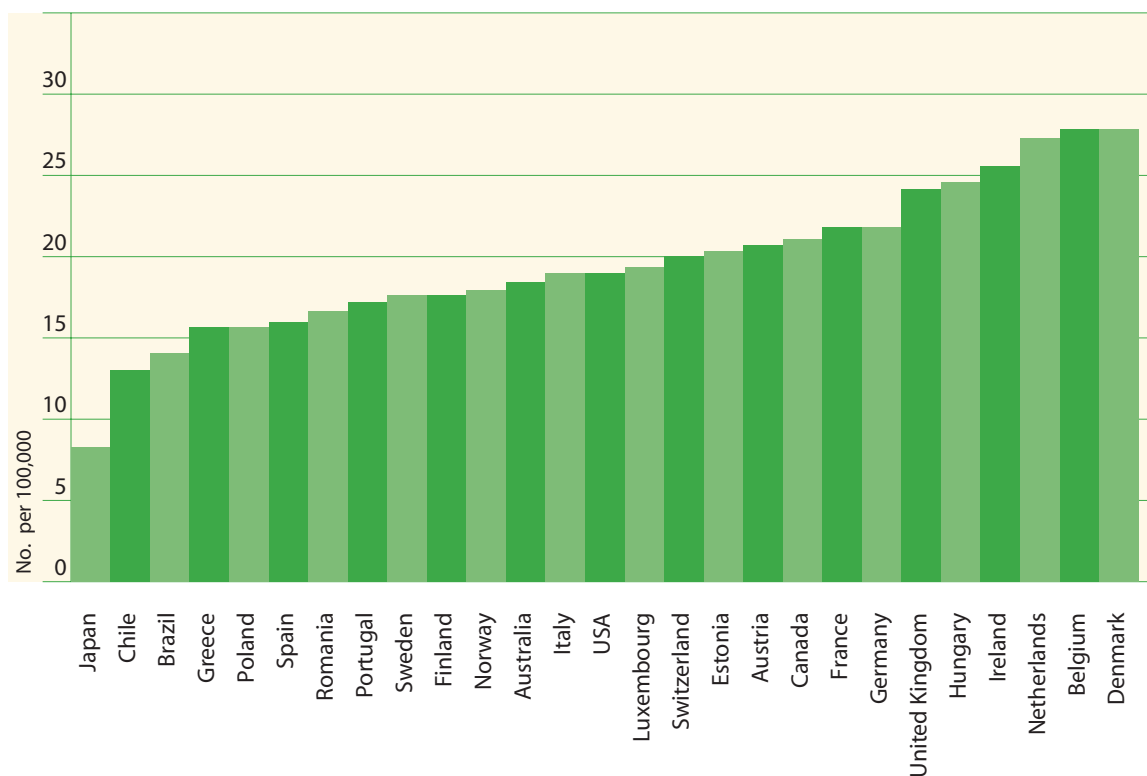
International comparisons of deaths from breast cancer reveal wide variation in death rates. Figure 2 shows that Ireland ranks fourth-highest in this

comparison, alongside other northern European countries such as Denmark, the Netherlands, the United Kingdom and Belgium.²

However, the age-standardised rate in Ireland is higher than that in the United States and much higher than rates in the southern European countries of Italy, Portugal, Spain and Greece. The Nordic countries (Norway, Sweden and Finland) have a relatively low death rate from breast cancer.

Figure 2: Estimation of Workload Implications for General Practice Breast Cancer Mortality: World Age-Standardised Rates per 100,000 (All Ages)

Source: Globocan 2002: Cancer Incidence, Mortality and Prevalence Worldwide²

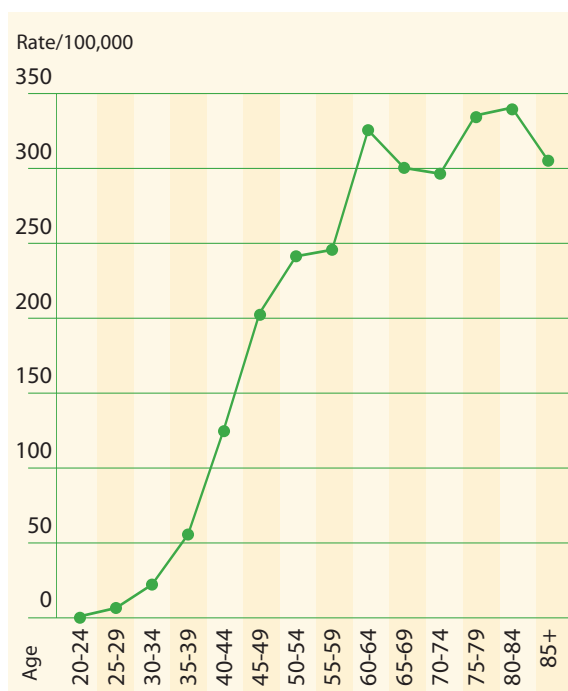


Breast Cancer Incidence

Data from the National Cancer Registry indicates that there were 2,204 new cases of breast cancer in Ireland in 2004 (of which 2,186 were female).³

Figure 3 shows that breast cancer occurs infrequently in women under 40 years of age, and there is a steady increase in incidence through the 40–50 age group. The largest number of cases occur in women aged 50 to 54. The age-specific incidence peaks at age 60 to 64 years and rises again after 75 years to a second maximum in the oldest age group. Over one-third of all new cases occur in the 50 to 64 age range, which is the target group for BreastCheck.

Figure 3: Breast Cancer Incidence in Ireland 2004: Age-Specific Incidence per 100,000



Data from the National Cancer Registry for 1999 indicates that only 5.1% of breast cancers were in situ, i.e. non-invasive cancers. We would expect a far higher proportion of detected cancers to be in situ for a successfully implemented cancer screening programme. This has been the case since population-based screening commenced in Ireland with 10–20% of screen-detected cancers being in situ.

Risk of Developing Breast Cancer at Specific Ages in Ireland

Age-specific incidence data can be used to estimate the risk of developing breast cancer at specific ages (Table 4).

Table 4: Breast Cancer in Ireland 1997: Cumulative Risk at Specific Ages

Age group (years)	Approximate risk
30-34	1 in 1,000
35-39	1 in 300
40-44	1 in 100
45-49	1 in 50
50-54	1 in 40
55-59	1 in 30
60-64	1 in 25
65-69	1 in 20
70-74	1 in 14
75-79	1 in 12

Effectiveness of Mammographic Screening

Mammographic screening for breast cancer has been investigated more thoroughly than screening for any other condition. Systematic evaluation began in 1963 with the Health Insurance Plan randomised controlled trial in New York.⁴ Table 5 summarises the estimates of mortality reduction and the levels of statistical significance achieved in international studies.

Table 5: Estimates of Mortality Reduction in Breast Cancer: Evidence from International Studies

Study	Year	Mortality Reduction	Significance	Reference
HIP	1963	14%-38%	P<0.05	4
BCDDP	1973	19%	NS	12
Utrecht	1974	↓	P<0.05	6
Nijmegen	1975	↓	P<0.05	7
Malmo	1976	5%-28%	NS	5
Two Counties	1977	30%	P<0.05	8
UK	1979	27%	P<0.05	9
Edinburgh	1981	21%	NS	10

Estimates of reduction in mortality that have been achieved to date in randomised controlled trials vary from 4%⁵ to 30%⁸. These studies, which were conducted in different countries for different time periods and with different epidemiological approaches, have all demonstrated a beneficial effect from mammographic screening on mortality from breast cancer.

Although not all studies have achieved a statistically significant reduction in mortality, it is noteworthy that the direction of change in mortality in all studies is downwards.⁴⁻¹⁴ More recently, meta-analyses of randomised controlled trials indicate a significant benefit in terms of mortality reduction of about 25% for screened women aged 50–74 years at entry.¹⁵⁻¹⁷

Screening programmes are set up as service programmes rather than as randomised controlled trials or case control studies of mammography. Therefore, it may not be reasonable to expect that a programme can achieve a reduction in mortality of the order of the higher estimates quoted above.

However, an important study examining non-randomised general population screening suggested that the impact of mammography on mortality from breast cancer in the non-randomised situation is 24%.¹⁸ This study also points out that the better organised the population programme, the more reliable the estimates of mortality reduction are. Therefore, based on this study and on the meta-analyses referred to above, an estimate of at least 20% reduction in mortality from breast cancer in Irish women has been adopted by BreastCheck.

The year 2000 saw two scientists from the Nordic Cochrane Centre claim, in a paper published in the *Lancet*, that there was no convincing evidence that mammographic screening decreased breast cancer mortality and that the results from the randomised trials that underpinned the scientific justification were unreliable¹⁹. In 2002 a report from the International Agency for Research on Cancer concluded that there was indeed sufficient evidence from the randomised trials that mammographic screening in women aged 50 to 69 years reduced mortality from breast cancer²⁰. The current Cochrane Review also states that “screening likely reduces breast cancer mortality”²¹.

The conclusion of the IARC – that mammographic screening is effective – continues to be supported by most of the scientific community. It is important that a woman understand the benefits, risks and limitations of screening so that she can make an informed choice about participation. BreastCheck supports this approach.

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3.2

Aetiology of Breast Cancer

Risk factors for breast cancers have been greatly studied (Table 6). The literature is vast, and only a brief summary will be given here. The only strongly predictive risk factors of disease are family history and advancing age.^{1, 2}

Table 6: Risk Factors Associated with Breast Cancer

- Older women
- Higher social class
- Domiciled in North America or northern Europe
- First degree relative with breast cancer
- Previous breast cancer
- Previous ovarian/endometrial cancer
- Previous histologically confirmed fibrocystic breast disease – with histologic features of atypia
- Early menarche
- Late menopause
- Nulliparity
- Older than 30 years at birth of first child
- Exogenous oestrogens
- Ionising radiation in large doses
- Obese body build postmenopausally
- Alcohol
- Individuals who carry BRCA1 or BRCA2 gene mutation

Demographic Characteristics

There is a strong predictive association between age and the incidence of breast cancer, with a higher risk among older women. Breast cancer is also more likely to occur in women of upper social class. There is a high relative risk associated with living in North America or northern Europe, as opposed to Africa or Asia.³

Family History

Approximately 5% of breast cancer in western countries is now thought to be due to inherited susceptibility. This is frequently associated with a strong family history of breast cancer and other cancers, notably ovarian cancer. Breast cancers often occur in a younger age group in these women. If a woman has one first degree relative (mother or sister) with breast cancer before age 50, her lifetime risk of developing the disease is greater than 30% and consequently she is categorised as 'high risk' for breast cancer.⁴ Put another way, she has double the risk of developing the disease. For a more detailed discussion, see section 3.6, Familial Breast Cancer.

Medical History

There is approximately a 20% increase in the risk of developing a second breast cancer after a first, and the risk is inversely related to age at presentation of the first cancer.⁵ Primary ovarian or endometrial cancer is also associated with a small increase in relative risk (RR=2.0). The relative risk of cancer associated with benign breast disease is generally low (RR=2.0). The excess risk is particularly associated with epithelial lesions showing atypia.⁶ Women with palpable cysts, complex fibroadenomas, duct papillomas, sclerosis adenosis and moderate or florid epithelial hyperplasia have a slightly higher risk of developing breast cancer (1.5 to 3 times) than those without these changes, but again, this increase is not clinically important.⁷

Menstrual History

A woman with an early menarche and a late menopause has a higher risk of developing breast cancer than a woman who has a later menarche and an early menopause.⁷

Reproductive Factors

Nulliparous women and women who had their first child after the age of 30 years are more at risk of developing breast cancer than parous women or women who had their first child when they were

younger than 20. However, the magnitude of this risk is very low.

Exogenous Oestrogens

As breast cancer is common and exogenous oestrogens (oral contraceptives and HRT) are widely used, any effect on the risk of breast cancer from exogenous oestrogens would be of enormous concern. A systematic review of breast cancer and oral contraceptive use which pooled the results from 54 case control studies found no association between past pill use and the risk of breast cancer.⁸

However, current users and those who recently stopped had an increased relative risk of developing breast cancer (RR=1.2). This risk appears to be independent of duration of use, age at first dose and type of hormone in the contraceptives and disappears over the 10 years following cessation of taking the pill. One important question relating to the long-term use of the pill before first pregnancy remains unanswered by this review.

The relationship between HRT and breast cancer also warrants discussion. A reanalysis of the relationship between cancer and HRT has shown that there is a small increased risk of breast cancer among current and recent users (those who stopped within the previous five years). This amounts to a 2.3% increase in relative risk for each year of use. The level of risk is similar to that associated with a delay in the age of menopause. The risk of breast cancer appears to be higher with combined oestrogen and progestogen preparations.⁹ It is difficult to assess the risk for each individual woman, but some assessment of the risk/benefit balance which takes into account her own family history, her fears and her prejudices should be attempted before deciding whether or not to prescribe HRT.

Breast cancers found in pill or HRT users are clinically less advanced than among non-users, although this may be because of increased surveillance and therefore earlier diagnosis. The increased risk among current users with a decline after stopping supports the theory that exogenous oestrogens might be working as tumour promoters, i.e. making them

grow faster, rather than as carcinogenic factors, i.e. initiating the cancer.

Ionising Radiation

Large doses of ionising radiation (for example, in the treatment of certain types of cancer) are associated with a high risk of developing breast cancer. These cases are limited in number and few, if any, women will be exposed to high doses of radiation nowadays.

Spontaneous or induced abortion has not been shown to be linked to the development of breast cancer.¹⁵

Breast implants are not associated with an increased risk of breast cancer incidence or death.¹⁶

Diet and Alcohol

Obese post-menopausal women have a higher relative risk of developing breast cancer than post-menopausal women who are thin (RR=1.5–2.0).¹⁰ The association between breast cancer and dietary fat or dairy product intake is contentious and remains unresolved. Some have judged the evidence to be convincing and others find it very weak.¹¹

There is a tenuous link between regular alcohol consumption and the development of breast cancer but further information is needed before recommendations can be made.¹²

Factors Shown to Have No Effect on Risk

A number of factors have been considered in the past as possible indicators of breast cancer risk but have not been found to be risk factors. These include exposure to diazepam and hair dyes, cholecystectomy and thyroid disease.¹³ There is no reliable evidence that the use of underarm cosmetics (including antiperspirant/deodorant) increases breast cancer risk in humans.¹⁴

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8. Collaborative Group on Hormonal Factors in Breast

Table 7: General Principles of Screening

The Disease	The Screen	Follow-up	Economy
<ul style="list-style-type: none"> • The condition should pose an important health problem. • The natural history of the condition should be well understood. • There should be a recognisable latent or early stage. • Treatment of the disease at an early stage should be of more benefit than treatment started at a later stage. 	<ul style="list-style-type: none"> • There should be a suitable test or examination. • The test or examination should be acceptable to the population being screened. • Screening must be a continual process. 	<ul style="list-style-type: none"> • Facilities should be available for assessment and treatment of any abnormalities detected. • There must be an acceptable form of suitable treatment. • The chance of physical or psychological harm should be less than the chance of benefit. 	<ul style="list-style-type: none"> • The cost of case finding should be economically balanced in relation to possible expenditure on medical care as a whole.

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Table 8: Breast Cancer Stage and Five-Year Relative Survival

Stage	Description	% Five-Year Relative Survival (1998–2001)
I	Small mobile tumour less than 2cm and confined to the breast. No lymph node involvement.	97
II	As I, but with some nodal involvement, or larger tumours (2–5cm) with or without nodal involvement. No known distant metastases.	86
III	Locally advanced tumour possibly attached to chest wall. Nodal involvement. No known distant metastases.	67
IV	Distant metastases present	24
All Stages		78

3.3

Early Diagnosis of Breast Cancer – The Case for Screening

As primary prevention of breast cancer is not currently possible, the emphasis must be on secondary prevention, i.e. detection at a presymptomatic phase. Survival rates are directly related to the stage at which diagnosis is made and treatment initiated.

Seventy to 80 percent of screen-detected cancers have a good prognosis. Whether the prognosis of screen-detected cancers is inherently different from that of clinically detected lesions remains uncertain.

When considering a screening activity for a disease or condition, there are a number of questions that need to be answered before the activity can be justified. These criteria were outlined by Wilson and Jungner¹ and are summarised in Table 7.

The Disease

The condition should pose an important health problem

Breast cancer is the leading cause of death from cancer in women, accounting for almost one-fifth of these deaths. It is also a significant cause of morbidity, with approximately 1,700 new cases diagnosed each year prior to the introduction of screening. This has increased to approximately 2,200 new cases diagnosed annually since mammographic screening was introduced. This is to be expected as early detection shortens the latent period of the disease, which results in an apparent increase in incidence, and is thus in keeping with findings in the 2006 Cochrane Collaboration paper on screening for breast cancer with mammography (reference no. 19 in section 3.1, Epidemiology of Breast Cancer), which estimated a 30% increase in cases of breast cancer with mammographic screening.

The natural history of the condition should be well understood

The natural history of breast cancer exhibits extreme

variability in growth rates and unfortunately is not fully understood. Breast cancer may disseminate very early in its natural history, or it may take several years. In some cases, carcinoma in situ or early invasive cancers never progress but may stabilise or regress. The behaviour of screen-detected breast cancers may be inherently different to those diagnosed because of symptoms. Nonetheless, survival among those presenting with symptomatic disease is related to stage at presentation.

There should be a recognisable latent or early stage

Breast screening seeks to detect cancers that are still localised to the breast and have yet not metastasised. It has been shown that in an initial screen, 10–20% of cancers may be in situ.

A further 40–50% may be invasive lesions of less than 2cm in diameter. Detected invasive cancers of less than 2cm in diameter are less likely to have spread to local lymph nodes. Non-invasive or very small invasive tumours are generally regarded as constituting 'early-stage' disease. In the period since screening began in 2000 to the end of 2006, over 70% of invasive cancers detected by BreastCheck were less than 2cm in diameter while approximately 50% of them were less than 15mm in diameter.

Treatment of the disease at an early stage should be of more benefit than treatment started at a later stage

Evidence suggests that early diagnosis of breast cancer is, in general, associated with a more favourable outcome² (Table 8³). The smaller tumours favour a greater choice of treatment options, including conservative surgery.

The Screen

There should be a suitable test or examination

Ideally, the test or examination should be simple, easy to apply, acceptable to women, have a high sensitivity and specificity, be reproducible, cost-effective and have a low risk-to-benefit ratio (see Table 9).

Table 9: Sensitivity, Specificity, Positive Predictive Value (PPV)

Table 10: Benefits and Adverse Effects of Breast Cancer Screening

	Benefits	Adverse Effects
Physical	<ul style="list-style-type: none"> Improved prognosis because of earlier diagnosis Avoidance of morbidity associated with more radical treatment of later stage disease 	<ul style="list-style-type: none"> Discomfort and pain of mammography Extended morbidity if prognosis is unaltered by early diagnosis Over-diagnosis of minor abnormalities resulting in unnecessary treatment Unnecessary diagnostic morbidity for those with false positive mammograms
Psychological	<ul style="list-style-type: none"> Reassurance for those with negative mammograms Reassurance that the disease, if detected, is at an early stage Possible psychological advantages of avoiding radical treatment 	<ul style="list-style-type: none"> Fear of being found to have cancer when invited for screening False reassurance of false negative mammograms Extended psychological morbidity if prognosis is unaltered by early diagnosis Anxiety about prognosis for those with incurable cancer

Sensitivity

The sensitivity of a screening test is defined as the proportion of women with breast cancer whose mammograms are interpreted as positive. It is, therefore, the ratio of histologically-proven malignancies correctly identified at the screening examination to all histologically-proven malignancies (identified and not identified at the screening examination), i.e. true positives/true positives + false negatives.

To establish the sensitivity of the screening test in a screening programme, there must be a system in place for the identification and classification of interval cancers.

Specificity

The specificity of a screening test is defined as the proportion of women without breast cancer

whose mammograms are interpreted as negative. It is therefore the ratio of truly negative screening examinations to those that are truly negative and falsely positive, i.e. true negatives/true negatives + false positives. False positives are those which have a histologically-proven benign lesion.

Positive Predictive Value (PPV)

The positive predictive value of a screening test refers to the ratio of lesions which are truly positive to those which are test positive. PPV is intimately affected by the prevalence of the condition under study.

Thus, with a prevalence of <1%, as with breast cancer, one can expect a low positive predictive value and a very high negative predictive value for screening mammography.

Table 11: Cost Benefits and Disadvantages of Breast Screening

Cost Benefits	Cost Disadvantages
<ul style="list-style-type: none"> • Avoids expense of treatment of advanced cancers • Extra years of productivity 	<ul style="list-style-type: none"> • Screening expenses • Extra diagnostic expenses with false positive tests • Cost of additional cases treated • Treating cases earlier and with longer follow-up

Adapted from Chamberlain⁴

Modern mammography is the only technique to date which has demonstrated the ability to detect breast cancer reliably at an early stage with a reasonably high sensitivity and specificity. While it is not simple or easy to apply, mammography is much more sensitive than either breast self-examination or clinical examination.

The test or examination should be acceptable to the population being screened

A compliance level of at least 70% attendance of the target population must be achieved if the optimal targets for reduction in mortality are to be met. Women's personal views of the test affect the uptake. Mammography can be uncomfortable and requires attendance at a screening unit or a mobile unit. Public information programmes and advice from GPs and PNs increase acceptability. In each year since the commencement of screening, BreastCheck has surpassed this target with an average of 74% of invited women accepting their appointments.

Screening must be a continual process

The optimum screening interval for breast cancer is still a subject of much debate. The BreastCheck programme has a two-year screening interval. This decision results from the UK experience, where the interval cancer rate became unacceptably high in the third year of a three-year screening programme.

Follow-up

Facilities should be available for assessment and treatment of any abnormalities detected

It is essential that women with abnormal mammograms are appropriately assessed and treated with the minimum of delay. Screening units with the necessary expertise, experience and equipment are part of the BreastCheck service.

There must be an acceptable form of suitable treatment

While there is no universally accepted consensus on the optimal management of breast cancer, internationally agreed treatment protocols are emerging. Treatment offered by the hospitals used by BreastCheck conforms to these protocols.

The chance of physical or psychological harm should be less than the chance of benefit

Breast screening is offered to women with an explicit promise that it will do some good and with the implicit understanding that it will cause little harm. Breast screening should be evaluated in the context of an assessment of the balance of risks and benefits⁴ (Table 10).

The principal benefit of screening, i.e. improved prognosis for many women with screen-detected cancer, outweighs possible adverse effects. Adverse problems have to be taken seriously and evaluated and efforts should be made to reduce them wherever possible.

Economy

The cost of case finding should be economically balanced in relation to possible expenditure on medical care as a whole

It is difficult to quantify the cost-benefit analysis of a year of a woman's life saved. General cost benefits and disadvantages are outlined in Table 11.⁴

Screening versus Investigation of Breast Symptoms

It is important to differentiate in this context between screening – the practice whereby women in an organised screening programme and targeted age group receive regular mammograms – and investigation of a breast symptom (such as pain or a lump) by mammogram. Sensitivity, specificity and positive predictive value for a mammographic screening programme do not apply to an individual undergoing a mammogram to investigate a symptom.

Conclusion

BreastCheck – The National Breast Screening Programme was launched in Ireland in 2000 and is now seeing the benefits that other countries have seen from longer-established breast screening programmes. Cancers have been detected earlier, treatment is more conservative and women are living longer. The uptake of screening and the BreastCheck service is to be encouraged.

References

1. Wilson JM and Jungner G (1968) 'Principles and practice of screening for disease, WHO public health paper no. 34', Geneva World Health Organisation.
2. Cancer Research Campaign (1996) 'Cancer research campaign fact sheet 6: breast cancer', London: Cancer Research Campaign.
3. Walsh PM and Comber H (2006) 'Patterns of care and survival of cancer patients in Ireland 1994 to 2001: time-trends and regional variation for breast, colorectal, lung and prostate cancer. Summary report', Cork: National Cancer Registry.
4. Chamberlain J (1988) 'Screening for early detection of cancer' in R Tiffany and AP Pritchard, eds., *Oncology for Nurses and Health Care Professionals Vol 1*, New York: Harper & Row, 154-73.

3.4

Barriers to Screening

The success and effectiveness of breast screening depend on obtaining high attendance rates, with an uptake of at least 70%. The following conditions must be fulfilled to achieve a sufficiently high uptake, both in initial and subsequent rounds of screening:

- Identification and recruitment of the eligible population
- Health promotion, screening promotion and health education
- Professional education and training
- High-quality mammography service
- Notification and explanation of results
- Appropriate and high-quality management of those with abnormal findings on mammography
- Ongoing co-ordination, monitoring and evaluation
- Systematic management of quality¹

Why some women may not attend for screening

- Not registered with the programme
- Incorrect details
- Invitation not received
- Appointment forgotten
- Illness
- Away or unavailable
- Chose to opt out

Women who choose not to be screened do so for a number of reasons. These include both personal and practical issues.

Personal reasons for non-attendance²

- Embarrassment, self-consciousness, anxiety
- Fear of the screening test – pain, compression

- Denial or fear of what might be found
- Adverse comments heard about screening from other women, from the media or from other sources
- Lack of understanding of BreastCheck and/or benefits of screening
- Dislike of doctors
- Previous bad experience within the health service – delays, quality of service
- Cultural issue – children and partner first, mother last
- Ethnic and/or language barriers – comprehension, literacy issues

Practical reasons for non-attendance

- Socio-economic class/education^{3,4}
- Lack of transport
- Screening only available by appointment
- Timing pressures and busy lifestyles – appointments during working hours only

What factors may influence attitudes and beliefs about breast screening?

- The reputation of the service
- Previous attendance
- The availability of adequate and appropriate information
- Positive influence and/or advice received
- Attitudes and beliefs about:
 - health issues in general
 - the seriousness of breast cancer
 - the individual's personal susceptibility to the disease
 - the effectiveness of breast screening
 - the screening procedure
- The importance of breast screening in the woman's life

- Uncertainty about the outcome of the test
- The implications of an 'abnormal' result at any stage of the process

Principles in considering attitudes and beliefs about breast screening

- Appreciate that breast screening needs to be seen in the context of normal breast changes, breast cancer and women's general health.
- Recognise the complexity of the relationship between knowledge, attitudes, beliefs and behaviour.
- Avoid inducing guilt in women who do not attend.
- Point out the limitations as well as the benefits of mammography.
- Acknowledge that there is no consensus concerning treatment.

How can GPs and PNs help to achieve a high response rate?

- Understand the organisation of the Programme in order to provide accurate information.
- Actively publicise the Programme with posters, leaflets and verbal encouragement.
- Encourage positive attitudes towards breast screening.
- Understand the procedure if an appointment is missed.
- Be aware of beliefs, fears and anxieties about breast cancer and breast cancer screening.
- Follow up non-attenders.
- Contact BreastCheck if clarification is required.

References

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2. Walker LG, Cardiner CM, Gilbert FJ et al (1994) 'How distressing is attendance for routine breast screening?' *Psycho-Oncology*, 3: 299-304.
3. Bradley CJ, Given CW and Roberts C (2002) 'Race, socioeconomic status and breast cancer treatment and survival', *J National Cancer Inst*, 94: 490-496.
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3.5

Management of Breast Cancer

Following diagnosis, the patient must be given adequate time, information and support to enable her to participate in a fully informed decision about further treatment. It is advised that a frank discussion take place between the surgeon, the breast care nurse and the patient, during which the different options are outlined.

The management of breast cancers is guided by the National Quality Assurance Standards for Symptomatic Breast Disease Services.¹

Current treatments include:

- Conservative surgery and radiotherapy for local disease
- Systemic treatment (hormones, chemotherapy or both) is given as adjuvant therapy following local treatment. It is also employed for recurrent or metastatic disease. Systemic treatment may be useful in reducing the size of tumours prior to surgery.
- Mastectomy for extensive disease, including extensive ductal carcinoma in situ (DCIS)

Surgery of the Breast

The goals of breast cancer surgery are cure or control of local disease with the provision of accurate pathological staging and a satisfactory cosmetic result. Surgery should take place in an environment where the infrastructure exists to ensure physical and psychological rehabilitation.²

Conservation of the breast without compromising the goals of breast cancer surgery is the preferred option. Women who are treated with conservative surgery, i.e. wide local incision, will usually require radiotherapy to the remaining breast tissue.³

In screen-detected cancers, staging of the axilla is done predominantly by sentinel node biopsy rather than by axillary dissection.⁴

Appropriately selected and adequately performed conservative surgery gives similar survival figures to

more radical surgery. There are at least six randomised controlled trials confirming this assertion. All patients with screen-detected disease should be considered for breast-conserving surgery.⁵⁻⁹

Oncoplastic techniques should be used in either conservative surgery or mastectomy to ensure that a woman has a satisfactory cosmetic result according to her wishes. This includes both the use of tissue flap procedures or implants.

Early Breast Cancer Treatment

- Most women with early breast cancer are treated surgically, and the trend nowadays is to conserve the breast.¹⁰⁻¹³
- Radiotherapy is employed to prevent local recurrence following conservative surgery and also following mastectomy in some patients.
- Adjuvant systemic therapy consists of hormone therapy and/or chemotherapy.
- Hormone therapy is effective for women who have oestrogen or progesterone-receptor-positive tumours. Tamoxifen is the usual adjuvant hormonal therapy prescribed for pre-menopausal women. Both Tamoxifen and Aromatase inhibitors (drugs that prevent oestrogen formation) are useful in hormone sensitive post-menopausal breast cancers. Ovarian suppression is sometimes employed in premenopausal patients.
- Adjuvant chemotherapy is generally recommended for women with positive lymph nodes and for a sub-set of women with negative nodes. Herceptin is a new targeted therapy given with chemotherapy in the 20% of breast cancer that is sensitive to it.¹⁴

All adjuvant therapy decisions have to be made on an individual basis while applying general principles.

Radiotherapy

Radiotherapy aims to destroy cancer cells while sparing normal cells as much as possible. It may be external or internal.

External radiotherapy is usually given on an outpatient basis. Treatment is carefully planned according to the site, type and size of the tumour. Marks are drawn on the skin to indicate to the radiographer where rays are to be directed. Treatment itself takes only a few minutes.

Internal radiotherapy (brachytherapy) is delivered through a number of applicators placed within the breast tissue.

External and internal radiotherapy may be used concurrently.

Side effects: Both forms of radiotherapy may cause varying degrees of skin irritation. Tiredness is a common and sometimes persistent side-effect. Late effects include breast firmness and skin thinning with 'broken veins'.

Surgery and radiotherapy are also of benefit in treating localised recurrences, treating or preventing pathological fractures and controlling pain and wound breakdown.

Drug Therapy

Hormone therapy and chemotherapy are the main forms of drug therapy. Immunotherapy is applicable to some patients with breast cancer.

Hormone Therapy

Hormone therapy aims to block the stimulating effect of female hormones on breast cancer. It is primarily used in post-menopausal women. It is also of value in pre-menopausal women.

- Tamoxifen is commonly used. It is well tolerated and has few serious side effects.
- Progesterone analogues (Provera and Megace) are seldom used nowadays.

- Aromatase inhibitors (Anastrozole, letrozole and exemestane) are used in post-menopausal women. They are well tolerated and have few serious side effects.
- Removal of the ovaries is a more drastic form of hormone therapy, resulting in a sudden menopause and precluding future pregnancy. This is most commonly achieved using LHRH analogues as a reversible means of reducing ovarian hormone production.
- Bisphosphonates are used to preserve bone integrity.

Chemotherapy

Chemotherapy aims to destroy cancer cells. It is administered orally and/or intravenously, usually on an outpatient basis in cycles of a few weeks. As adjuvant therapy for surgery, it often lasts six months. It may be combined with hormone or radiotherapy. It may also be used for palliation to relieve pain and tumour size. As a neo-adjuvant therapy, it is given before surgery.

Side effects: Chemotherapy damages blood cells, which causes anaemia, infections and tiredness. Nausea and vomiting are common during treatment in spite of pre-medication to control them. Mouth ulcers and soreness, diarrhoea and constipation also follow treatment. Hair loss can be one of the most devastating side effects, although recovery within four months is usual. There is wide variation in the severity of side effects and in the response of the individual to them.

Immunotherapy

Human Epidermal Growth Factor Receptor 2 (HER2) is a protein involved in the growth of normal cells and over-expressed in some breast cancers. HER2 positive tumours tend to be more aggressive with a poorer prognosis. Herceptin is a mono-clonal antibody that blocks HER2 receptors, thereby inhibiting cell growth. It is administered intravenously and may have additive and synergistic effects when given in combination with other antineoplastic agents or hormone therapy.¹⁵⁻¹⁶

Side effects: Side effects include infusion-related reactions and cardio-toxicity.

Survival

Studies show that the lower the socio-economic status of the woman, the poorer the outcome. It is vital, therefore, that social disadvantage does not compromise the woman's capacity to participate in the screening process.

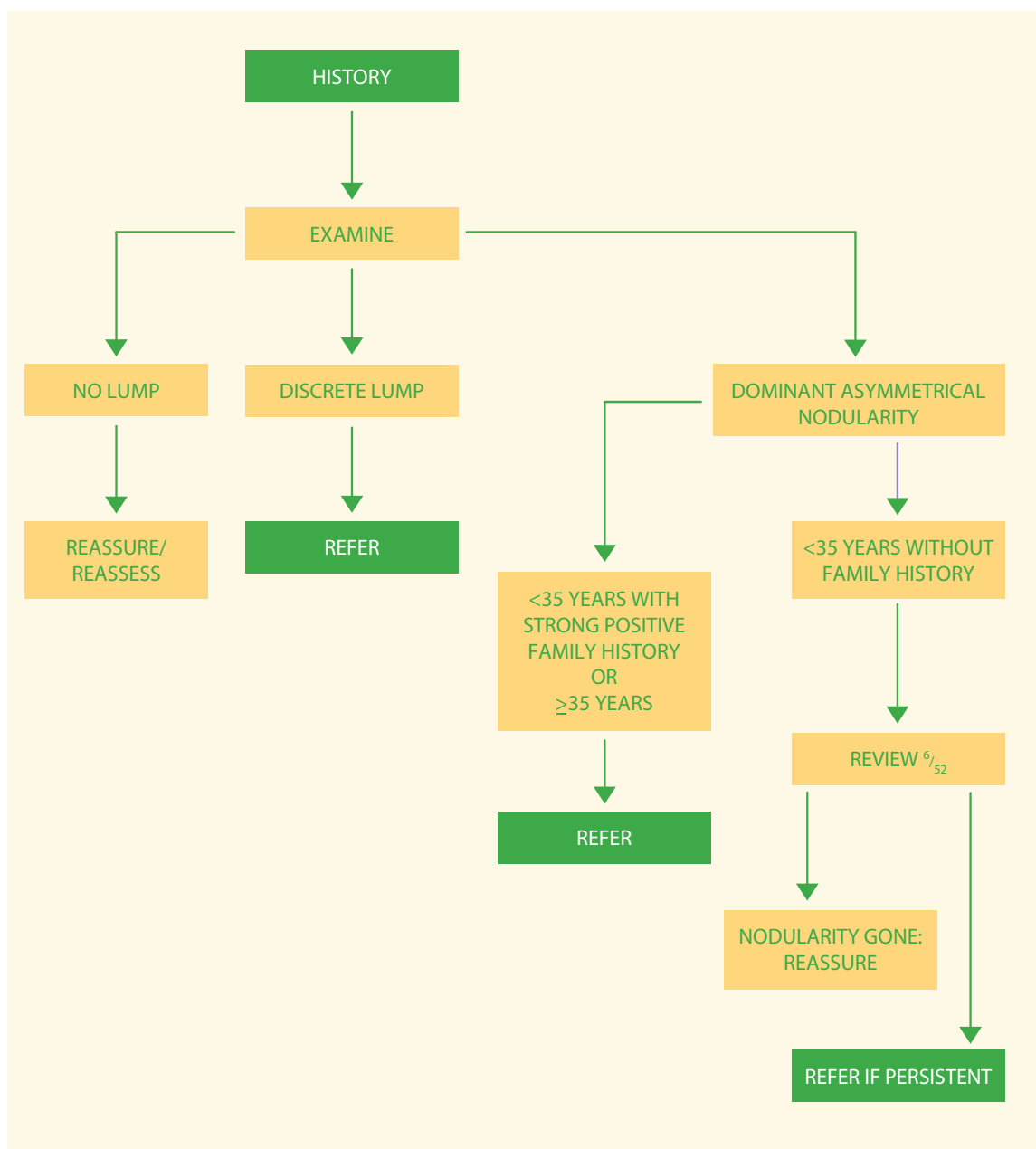
However, survival is also related to many other factors. These include the size of the tumour, the presence or absence of metastases in axillary nodes or at distant sites, and biological factors such as histological grade and hormone receptor status (see Table 8 in section 3.3, Early Diagnosis of Breast Cancer – the Case for Screening).¹⁷

Changes in treatment over time have also affected survival. The more widespread use of adjuvant treatments in a greater number of situations improves survival time.

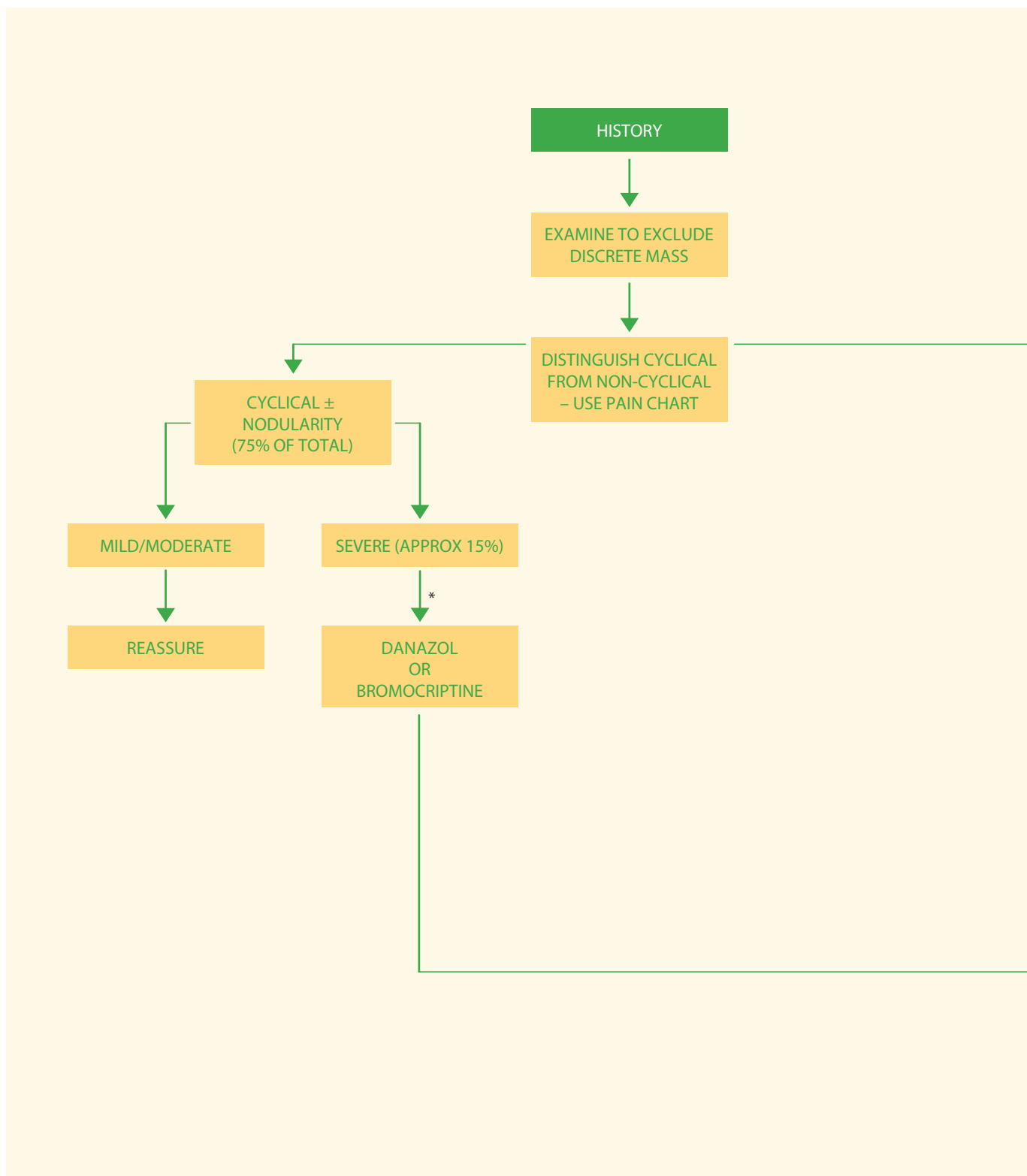
References

1. Health Information and Quality Authority (2006) *National Quality Assurance Standards for Symptomatic Breast Disease Services* [online], available:

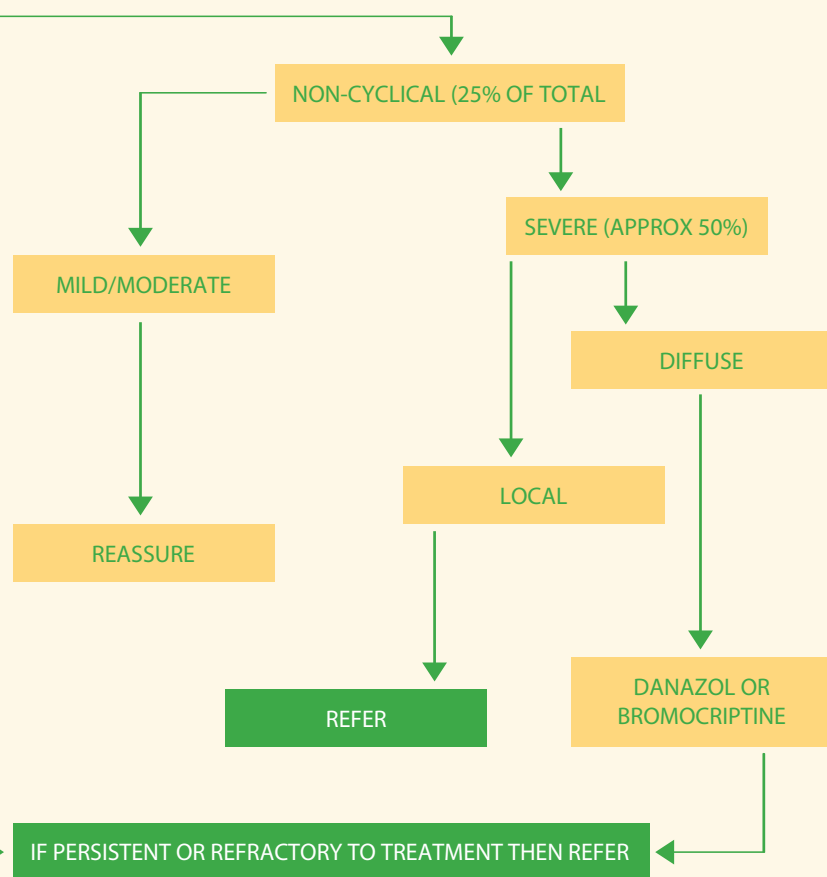
Management of breast lump



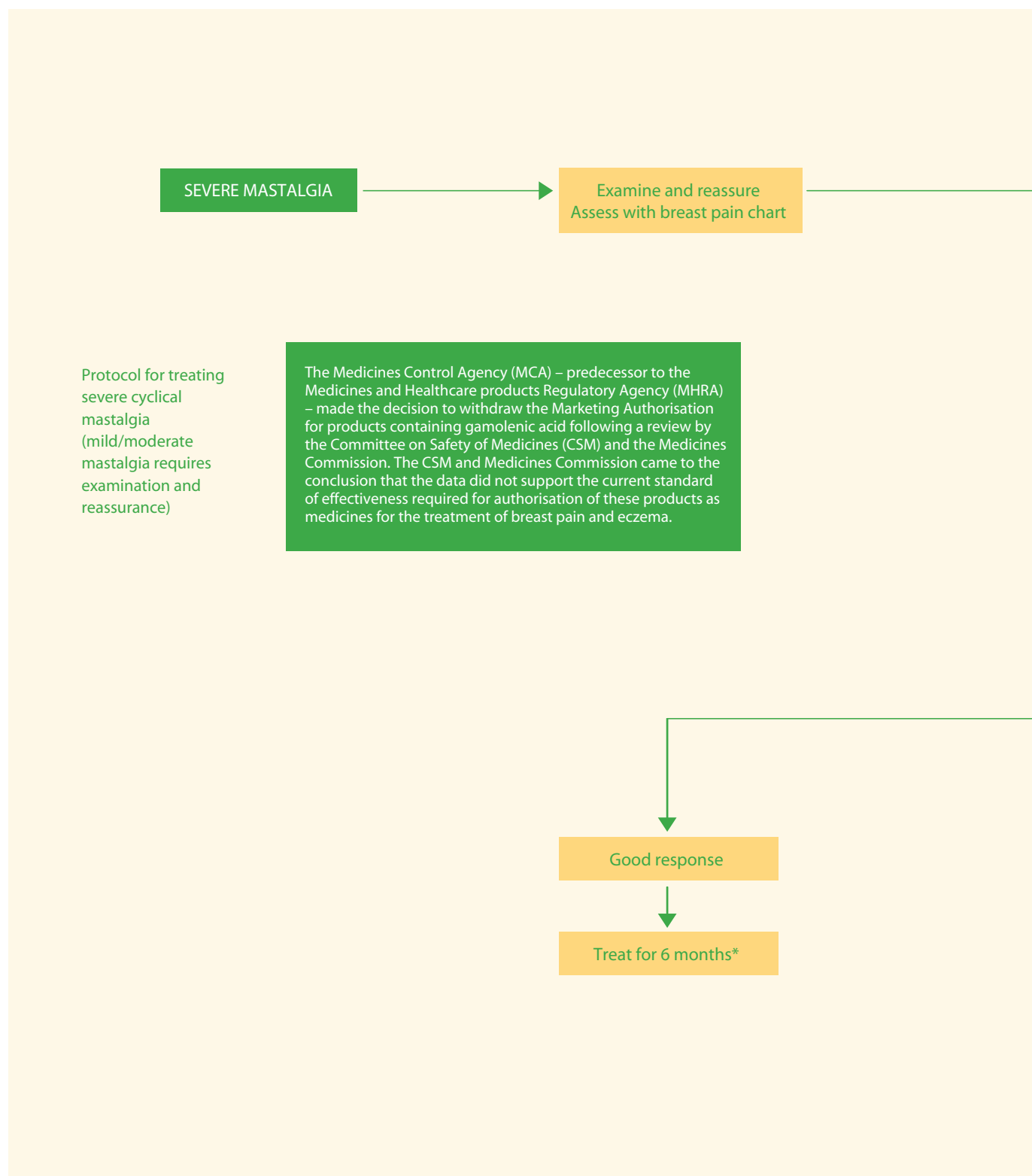
Management of breast pain



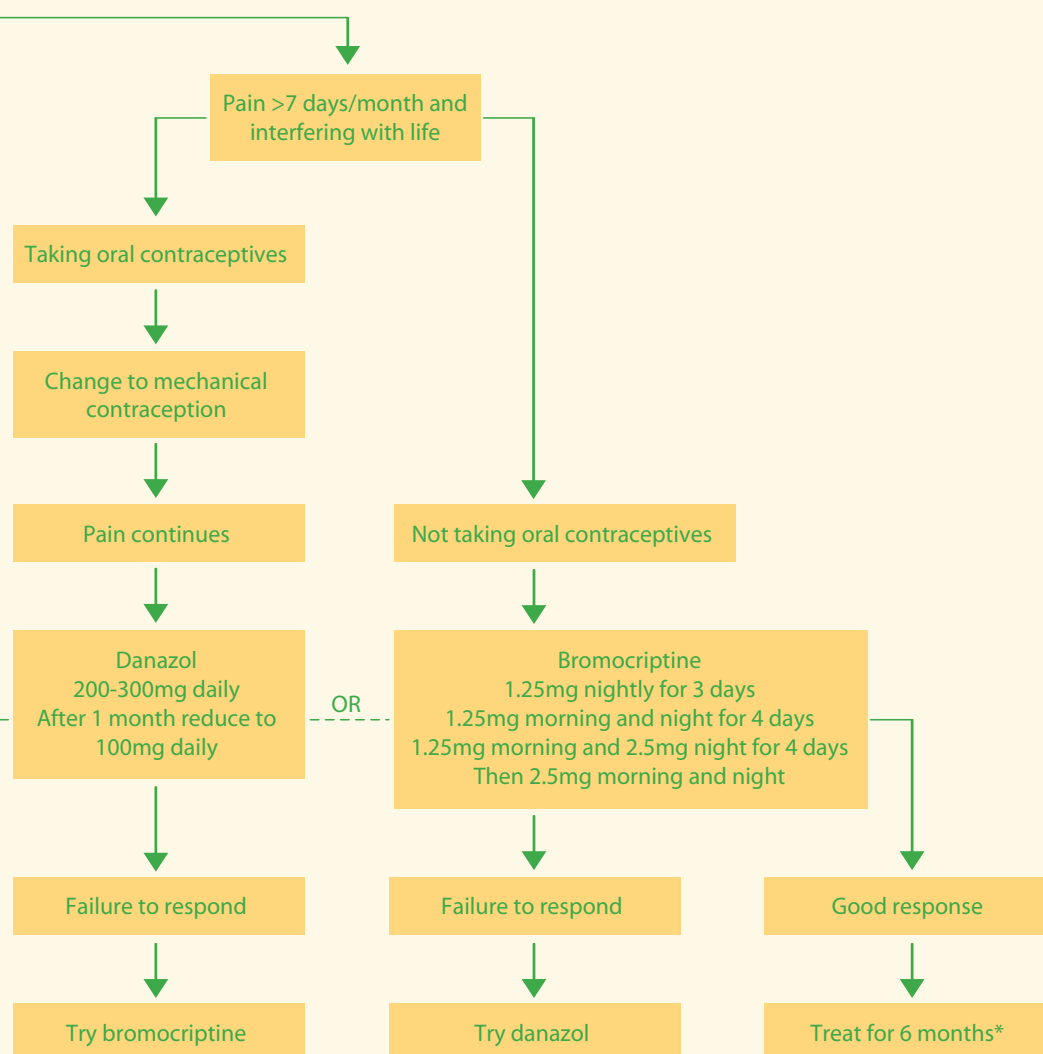
* Local management protocols may differ. Please discuss with your local breast unit.



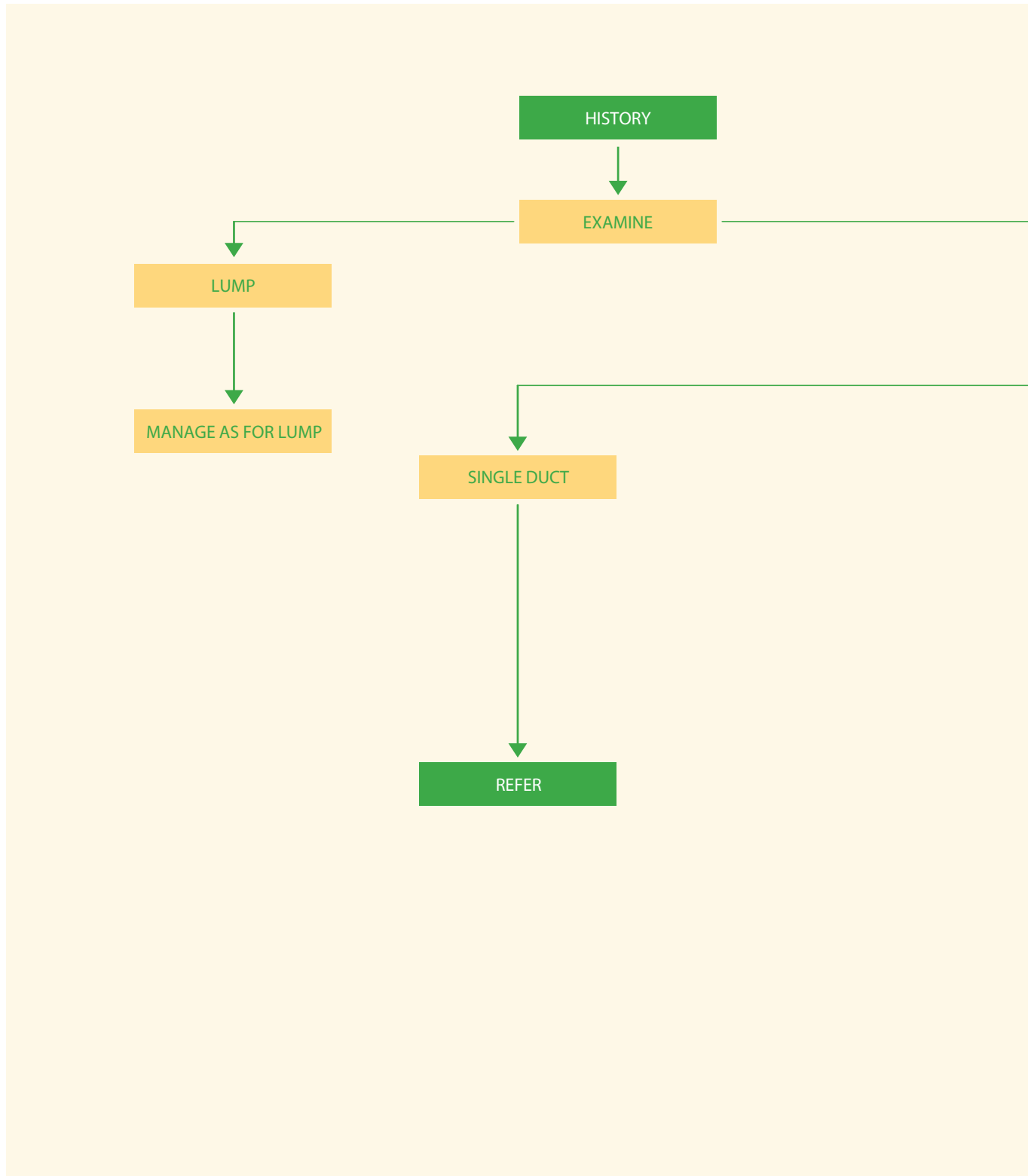
Management of moderate or severe mastalgia

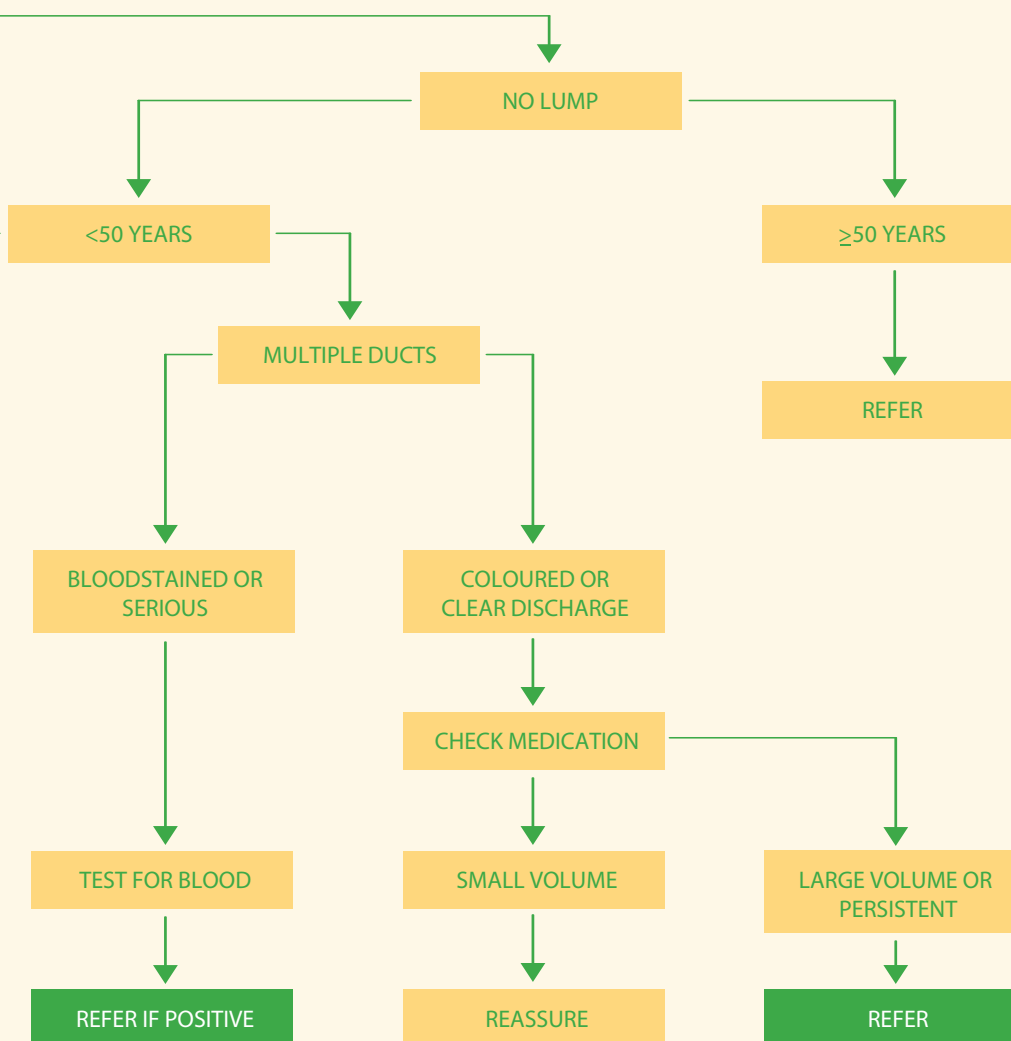


* After six months, treatment should be stopped. In only half of patients will breast pain recur, and some of these will not need further treatment because pain is milder. Severe recurrences can be treated with further course of previously successful treatment.



Management of nipple discharge





Appendices

Appendix A BreastCheck Consent Letter

Your reference number:



Central Office
King's Inns House
200 Parnell Street
Dublin 1

Tel 01 865 9300
Fax 01 865 9333
Email info@breastcheck.ie
www.breastcheck.ie

Freephone information line: 1800 45 45 55

I would like to welcome you to BreastCheck.

BreastCheck is a free health service for women aged 50 to 64 that aims to reduce deaths from breast cancer by finding and treating the disease at an early stage.

- Soon available in your area

BreastCheck provides a free breast x-ray (mammogram) to women every two years. The BreastCheck service will soon be available to women aged 50 to 64 living in your area.

- Your appointment will arrive by post

If you want to have a BreastCheck mammogram please wait for us to send you details by post of the time, date and place of your appointment. The appointment takes approximately half an hour and we ask you to let us know in advance if you have any special needs.

- If you had a recent mammogram or do not want to use the BreastCheck service

If you had a mammogram within the last year or you do not want to use the BreastCheck service, please write to us at the above address or freephone us at 1800 45 45 55 within 21 days.

- Where did BreastCheck get your name?

BreastCheck got your name, address and date of birth from several Government agency and health insurance records (which we have special permission to do). These include the Department of Social and Family Affairs, General Medical Services (GMS) and private health insurance companies. BreastCheck is Government-funded by the Department of Health and Children. While we make every effort to ensure that the BreastCheck population register is accurate, there are rare instances where errors may occur. If details in this letter are incorrect we ask you to advise us.

- Why have a mammogram?

A cancer can occur at any time and between screenings. Although there are a small number of cancers not detected by mammography, if you go for a regular mammogram any changes will be found as early as possible. At this stage breast cancer is easier to treat and you have a high chance of a good recovery.

Please read the enclosed leaflet to find out more about breast screening. When you receive your BreastCheck appointment details I do hope you will take this opportunity to look after your health.

Yours sincerely

Tony O'Brien
Chief Executive Officer



National
Cancer Screening
Service

The National Cancer Screening Service encompasses BreastCheck - The National Breast Screening Programme and CervicalCheck - The National Cervical Screening Programme.

COM-011-07

Appendix B BreastCheck Appointment Letter

Your Reference Number:



Western Unit
Newcastle Road
Galway
Ireland

Tel 091 580600
Fax 091 580650
Email western@breastcheck.ie
www.breastcheck.ie

The date for your free breast x-ray

This letter is to let you know that BreastCheck has arranged a time and location for your free breast x-ray. YOUR APPOINTMENT will take place on:

Let us know if you cannot be there

If you cannot attend at this time or location, please phone us at 091 580600 and we can give you a different appointment. If you need to make a change please let us know two days before this appointment.

Help us to prepare for you

We would like you to tell us before your appointment if you:

- Use a wheelchair
- Have any special needs
- Have breast implants
- Had a breast x-ray in the past year
- Have got more than one invitation
- If your name or address are incorrect
- Want more information

You can contact BreastCheck by phoning 091 580600 or by writing to the above address.

Why have a breast x-ray?

Breast cancer is one of the most common causes of death from cancer among women in Ireland. Although there are a small number of cancers not detected by mammography, by going for regular screening, if there are changes they will be found as early as possible. Services like BreastCheck have significantly reduced the number of deaths from breast cancer in other countries.

Please read the enclosed leaflet to find out what happens at the appointment. I strongly encourage you to take this opportunity to look after your health.

Yours sincerely

Dr. Aideen Larke
Clinical Director



National
Cancer Screening
Service

The National Cancer Screening Service encompasses BreastCheck - The National Breast Screening Programme and CervicalCheck - The National Cervical Screening Programme.

COM-014-03

Appendix C BreastCheck Women's Charter

BreastCheck Women's Charter

Screening commitment

- ★ All staff will respect your privacy, dignity, religion, race and cultural beliefs
- ★ Services and facilities will be arranged so that everyone, including people with special needs, can use the services
- ★ Your screening records will be treated in the strictest confidence and you will be assured of privacy during your appointment
- ★ Information will be available for relatives and friends relevant to your care in accordance with your wishes
- ★ You will always have the opportunity to make your views known and to have them taken into account
- ★ You will receive your first appointment within two years of becoming known to the Programme
- ★ Once you become known to the Programme you will be invited for screening every two years while you are aged 50 to 64 years
- ★ You will be screened using high quality modern equipment which complies with National Breast Screening Guidelines

We aim

- ★ To give you at least seven days notice of your appointment
- ★ To send you information about screening before your appointment
- ★ To see you as promptly as possible to your appointment time
- ★ To keep you informed about any unavoidable delays which occasionally occur
- ★ To provide pleasant, comfortable surroundings during screening
- ★ To ensure that we send results of your mammogram to you within three weeks

If recall is required

We aim

- ★ To ensure that you will be offered an appointment for an Assessment Clinic within two weeks of being notified of an abnormal result
- ★ To ensure that you will be seen by a Consultant doctor who specialises in breast care
- ★ To provide support from a Breast Care Nurse
- ★ To ensure you get your results from the Assessment Clinic within one week
- ★ To keep you informed of any delays regarding your results

If breast cancer is diagnosed

We aim

- ★ To tell you sensitively and with honesty
- ★ To fully explain the treatment available to you
- ★ To encourage you to share in decision-making about your treatment
- ★ To include your partner, friend or relative in any discussions if you wish
- ★ To give you the right to refuse treatment, obtain a second opinion or choose alternative treatment, without prejudice to your beliefs or chosen treatment
- ★ To arrange for you to be admitted for treatment by specialised trained staff within three weeks of diagnosis
- ★ To provide support from a Breast Care Nurse before and during treatment
- ★ To provide you with information about local and national cancer support groups and self-help groups

Tell us what you think

Your views are important to us in monitoring the effectiveness of our services and in identifying areas where we can improve

You have a right to make your opinion known about the care you received

If you feel we have not met the standards of the Women's Charter, let us know by telling the people providing your care or in writing to the Programme

We would also like to hear from you if you feel you have received a good service. It helps us to know that we are providing the right kind of service - one that satisfies you

Finally, if you have any suggestions on how our service can be improved, we would be pleased to see whether we can adopt them to further improve the way we care for you

You can help by

Keeping your appointment time
Giving at least three days notice if you wish to change your appointment
Reading any information we send you
Being considerate to others using the service and the staff
Please try to be well informed about your health

Let us know

If you change your address
If you have special needs
If you already have an appointment
Tell us what you think - your views are important.

Freephone 1800 45 45 55
www.breastcheck.ie

Appendix D Useful Contacts

Irish College of General Practitioners

4-5 Lincoln Place
Dublin 2
Tel: 01 676 3705 Fax: 01 676 5850
Email: info@icgp.ie
www.icgp.ie

Irish Practice Nurses Association

Cormoy
Cullovile Road
Carrickmacross
Co. Monaghan
Tel: 042 969 2403
Email: ipnaadmin@gmail.com
www.irishpracticenurses.ie

BreastCheck – The National Breast Screening Programme

Central Office
King's Inns House
200 Parnell Street
Dublin 1
Tel: 01 865 9300 Fax: 01 865 9333
Freephone Information Line: 1800 45 45 55
Email: info@breastcheck.ie
www.breastcheck.ie

BreastCheck – The National Breast Screening Programme

Merrion Unit
Merrion Road
Dublin 4
Tel: 01 223 5800

BreastCheck – The National Breast Screening Programme

Eccles Unit
36 Eccles Street
Dublin 1
Tel: 01 803 4900

BreastCheck – The National Breast Screening Programme

Western Unit
Newcastle Road
Galway
Tel: 091 580 600
Email: western@breastcheck.ie

BreastCheck – The National Breast Screening Programme

Southern Unit
Infirmary Road
Cork
Tel: 021 464 9700
Email: southern@breastcheck.ie

The National Cancer Screening Service

King's Inns House
200 Parnell Street
Dublin 1
Tel: 01 865 9300 Fax: 01 865 9333
Email: info@cancerscreening.ie
www.cancerscreening.ie

Irish Cancer Society

43/45 Northumberland Road
Dublin 4
Tel: 01 2310 500
Email: helpline@irishcancer.ie
www.cancer.ie

Action Breast Cancer

Irish Cancer Society
43/45 Northumberland Road
Dublin 4
Tel: 1800 30 90 40
Email: ABC@irishcancer.ie
www.cancer.ie/action/

Marie Keating Foundation

Unit 9
Millbank Business Park
Lucan
Co. Dublin
Tel: 01 6283726
Email: info@mariekeating.ie
www.mariekeating.ie

ARC Trust

Cancer Support Centre
65 Eccles Street
Dublin 7
Tel: 01 830 7333
Email: info@arccancersupport.ie
www.arccancersupport.ie

Europa Donna Ireland

PO Box 6602
Dublin 8
Tel/Fax: 01 496 0198
Email: info@europadonnaireland.ie
www.europadonnaireland.ie

National Centre for Medical Genetics

Our Lady's Children's Hospital
Crumlin
Dublin 12
Tel: 01 409 6739 Fax: 01 4560953
www.genetics.ie

**Irish College of General
Practitioners**

4-5 Lincoln Place
Dublin 2

Tel: 01 676 3705
Fax: 01 676 5850
Email: info@icgp.ie
www.icgp.ie

**Irish Practice Nurses
Association**

Cormo
Cullovile Road
Carrickmacross
Co. Monaghan

Tel: 042 969 2403
Email: ipnaadmin@gmail.com
www.ncnm.ie/ipna

**BreastCheck – The National
Breast Screening Programme**

Central Office
King's Inns House
200 Parnell Street
Dublin 1

Tel: 01 865 9300 Fax: 01 865 9333

Freephone Information Line:
1800 45 45 55

Email: info@breastcheck.ie
www.breastcheck.ie



National
Cancer
Screening
Service

The National Cancer Screening Service encompasses BreastCheck - The National Breast Screening Programme and CervicalCheck – the National Cervical Screening Programme