

**European guidelines on breast cancer
screening and diagnosis
ECIBC**

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Conflict of interest : none

Select a topic

Breast cancer screening

1. Organising screening programmes
2. Screening ages and frequencies
3. Use of artificial intelligence
4. Use of tomosynthesis
5. Women with high breast density
6. Inviting women to screening programmes

Breast cancer diagnosis

7. Informing women about their results
8. Further assessment after the mammogram
9. Staging
10. Planning surgical treatment
11. Towards the treatment of invasive breast cancer

1. Organising screening programmes

Organised vs. non-organised screening

Issued on: November 2017

Healthcare question

Should an organised mammography screening programme vs. an opportunistic or non-organised mammography screening programme be used for early detection of breast cancer in asymptomatic women?

Recommendation

The ECIBC's Guidelines Development Group (GDG) recommends using an organised mammography screening programme for early detection of breast cancer in asymptomatic women.

Recommendation strength

Strong recommendation

Moderate certainty of the evidence

1. Organising screening programmes

Double vs. single reading in mammography screening

Issued on: November 2017

Healthcare question

Should double reading (with consensus or arbitration for discordant readings) vs. single reading be used to screen mammograms for early detection of breast cancer in organised population-based screening programmes?

Recommendation

The ECIBC's Guidelines Development Group (GDG) suggests **using double reading (with consensus or arbitration for discordant readings) over single reading to screen mammograms** for early detection of breast cancer in organised population-based screening programmes.

1. Organising screening programmes

Communication skills training

Issued on: May 2019

Healthcare question

Should communication skills training vs. no communication skills training be used for healthcare professionals working with women who undergo screening mammography?

Recommendation

The ECIBC's Guideline Development Group (GDG) suggests **communication skills training** for healthcare professionals working with women who undergo mammography screening, in the context of an organised population-based screening programme.

1. Organising screening programmes

Specialised training

Issued on: July 2021

Healthcare question

Should professionals (radiologists, radiographers-readers, nurses and pathologists) with training or professionals without training provide care to women participating in breast cancer screening programmes?

Recommendation

Only professionals with specialised training in the area they practice should provide care to women participating in breast cancer screening programmes, breast cancer diagnostic services or screening assessment services (ungraded good practice statement).

2. Screening ages and frequencies

Women aged 40-44: screening vs. no screening

Issued on: June 2016

Healthcare question

Should organised mammography screening vs. no mammography screening be used for early detection of breast cancer in women aged 40 to 44?

Recommendation

For asymptomatic women aged 40 to 44 with an average risk of breast cancer, the ECIBC's Guidelines Development Group (GDG) suggests **not implementing mammography screening**.

2. Screening ages and frequencies

Women aged 45-49: screening vs. no screening

Issued on: September 2021

Healthcare question

Should organised mammography screening vs. no mammography screening be used for early detection of breast cancer in women aged 45 to 49?

Recommendation

For asymptomatic women aged 45 to 49 with an average risk of breast cancer, the ECIBC's Guidelines Development Group (GDG) suggests **mammography screening over no mammography screening** in the context of an organised population-based screening programme.

2. Screening ages and frequencies

Women aged 45-49: annual vs. biennial screening

Issued on: February 2017

Healthcare question

Should annual mammography screening vs. biennial mammography screening be used for early detection of breast cancer in women aged 45 to 49?

Recommendation

For asymptomatic women aged 45 to 49 with an average risk of breast cancer, the ECIBC's Guidelines Development Group (GDG) suggests **not implementing annual mammography screening** in the context of an organised population-based screening programme

2. Screening ages and frequencies

Women aged 50-69: screening vs. no screening

Issued on: June 2016

Healthcare question:

Should organised mammography screening vs. no mammography screening be used for early detection of breast cancer in women aged 50 to 69?

Recommendation:

For asymptomatic women aged **50 to 69 with an average risk of breast cancer**, the ECIBC's Guidelines Development Group (GDG) recommends **mammography screening over no mammography screening**, in the context of an organised population-based screening programme.

2. Screening ages and frequencies

Healthcare question

Should triennial mammography screening vs. biennial mammography screening be used for early detection of breast cancer in women aged 50 to 69?

Recommendation

For asymptomatic women aged **50 to 69 with an average risk** of breast cancer, the ECIBC's Guidelines Development Group (GDG) suggests **biennial mammography screening** over triennial mammography screening, in the context of an organised population-based screening programme

2. Screening ages and frequencies

Women aged 70-74: screening vs. no screening

Issued on: June 2016

Healthcare question

Should organised mammography screening vs. no mammography screening be used for early detection of breast cancer in women aged 70 to 74?

Recommendation

For asymptomatic women aged **70 to 74 with an average risk** of breast cancer, the ECIBC's Guidelines Development Group (GDG) suggests **mammography screening over no mammography screening**, in the context of an organised population-based screening programme

2. Screening ages and frequencies

Healthcare question

Should triennial mammography screening vs. biennial mammography screening be used for early detection of breast cancer in women aged 70 to 74?

Recommendation

For asymptomatic women aged **70 to 74 with an average risk** of breast cancer, the ECIBC's Guidelines Development Group (GDG) suggests **triennial mammography screening** over biennial mammography screening, in the context of an organised population-based screening programme

3. Use of artificial intelligence

Single reading with AI support

Issued on: February 2022

Healthcare question

Should single reading supported by artificial intelligence vs. double reading without artificial intelligence support be used to read mammograms using digital mammography (2DFFDM) or digital breast tomosynthesis for early detection of breast cancer in mammography screening programmes?

Recommendation

The ECIBC's Guidelines Development Group (GDG) **suggests not using single reading supported by artificial intelligence (AI) to read mammograms using digital mammography (2DFFDM) or digital breast tomosynthesis for early detection of breast cancer** in organised population-based screening programmes.

3. Use of artificial intelligence

Double reading with AI support

Issued on: February 2022

Healthcare question

Should double reading with support by artificial intelligence vs. double reading without support by artificial intelligence be used to read mammograms using digital mammography (2DFFDM) or digital breast tomosynthesis for early detection of breast cancer in mammography screening programmes?

Recommendation

The ECIBC's Guidelines Development Group (GDG) suggests **using double reading (with consensus or arbitration for discordant readings) supported by artificial intelligence (AI) over double reading (with consensus or arbitration for discordant readings) without AI support to read mammograms using digital mammography (2DFFDM) or digital breast tomosynthesis for early detection of breast cancer** in organised population-based screening programmes.

4. Use of tomosynthesis

Screening with tomosynthesis vs. mammography

Issued on: June 2021

Healthcare question

Should screening using digital breast tomosynthesis vs. digital mammography be used in organised screening programmes for early detection of breast cancer in asymptomatic women?

Recommendation

For asymptomatic women with an average risk of breast cancer, the ECIBC's Guidelines Development Group (GDG) suggests **using either digital breast tomosynthesis (DBT) or digital mammography (DM)** in the context of an organised population-based screening programme.

4. Use of tomosynthesis

Subgroup considerations

In line with previous versions of this recommendation, the GDG noted that **women with high mammographic breast density** are likely to benefit most from the increased detection capability of DBT. The GDG developed a specific recommendation for this subgroup on the use of DBT in the context of an organised population-based screening programme. See recommendation ‘Screening in women with high breast density: tomosynthesis vs mammography’

4. Use of tomosynthesis

Considerations for implementation and policy making

- **Evidence will be emerging from ongoing and newly starting screening trials on tomosynthesis** that may influence the current recommendations.
- The GDG identified **variability in the quality of DBT machines** currently available and their methods of capturing images. The Malmö study used a machine that has a wide-angle form of DBT image capture and may result in different breast cancer detection rates and also used a single view DBT format.
- The **GDG notes that new quality assurance standards of technologies and screening programmes must be considered in choosing DBT over DM. The GDG emphasised that specific standards for synthesised 2D imaging, and their use in comparison to previously captured DM screening images will be necessary in order to implement this recommendation.**
- There will be **significantly increased data storage needs** for screening programmes using DBT as compared to DM.
- The GDG noted that health equity in access to screening should be considered for countries choosing DBT-based screening programmes, due to different resource settings and the capacity for different countries to be able to pay for DBT over DM, which may lead to **increased health inequalities.**

4. Use of tomosynthesis

Screening with tomosynthesis plus mammography vs. mammography alone

Issued on: June 2021

Healthcare question

Should screening using digital breast tomosynthesis in addition to digital mammography vs. digital mammography alone be used in organised screening programmes for early detection of breast cancer in asymptomatic women?

Recommendation

For asymptomatic women with an average risk of breast cancer, the ECIBC's Guidelines Development Group (GDG) suggests **not using both digital breast tomosynthesis (DBT) and digital mammography (DM) in the context of an organised population-based screening programme.**

5. Women with high breast density

Tailored screening with tomosynthesis

Issued on: September 2021

Healthcare question

Should tailored screening with additional digital breast tomosynthesis vs. no additional digital breast tomosynthesis be used in organised screening programmes for early detection of breast cancer in women with high mammographic breast density detected for the first time with digital mammography in screening?

Recommendation

For asymptomatic women with **high mammographic breast density detected for the first time** with digital mammography (DM), the ECIBC's Guidelines Development Group (GDG) suggests **not implementing tailored screening with additional digital breast tomosynthesis (DBT)** in the context of an organised population-based screening programme.

5. Women with high breast density

Tailored screening with tomosynthesis

Feasibility and acceptability could be assessed in the monitoring of programmes.

Quality control procedures and quality standards should be further developed. Standards should be developed in particular for the **image quality of synthesised 2D images** from the tomosynthesis technology.

5. Women with high breast density

Screening with tomosynthesis vs. mammography

Issued on: September 2021

Healthcare question

Should digital breast tomosynthesis vs. digital mammography be used in organised screening programmes for early detection of breast cancer in women with high mammographic breast density detected in **previous screening exams**?

Recommendation

For asymptomatic women with **high mammographic breast density detected in previous screening exams**, the ECIBC's Guidelines Development Group (GDG) suggests **using digital breast tomosynthesis (DBT) over digital mammography (DM)** in the context of an organised population-based screening programme.

5. Women with high breast density

Asymptomatic women with high mammographic breast density detected in previous screening exams

Considerations for implementation and policy making

- The need for an infrastructure that would allow to **archive data on breast density from previous screening exams and to share mammograms across centres**;
- **The use of DBT might increase the overall time for reading mammograms** (either due to an increased time for reading a single mammogram or due to the necessity for the radiologist to rest between reading different mammograms);
- In some countries, **difficulties in recruiting radiologists for screening programmes exist**

The GDG noted how the **use of artificial intelligence (AI) algorithms might help overcoming these challenges** (please refer to the specific ECIBC recommendations on the use of AI in screening).

Also, it was noted that the need of referring women to another centre equipped with DBT might be not acceptable in certain countries.

5. Women with high breast density

Tailored screening with MRI

Issued on: January 2020

Healthcare question

Should tailored screening with magnetic resonance imaging, in addition to digital mammography, vs. digital mammography alone be used for early detection of breast cancer in asymptomatic women with high mammographic breast density in organised population-based screening programmes?

Recommendation

For asymptomatic women, with high mammographic breast density and a negative mammography, in the context of an organised population-based screening programme, the ECIBC's Guidelines Development Group (GDG) suggests **not implementing tailored screening with magnetic resonance imaging (MRI)**.

5. Women with high breast density

Tailored screening with MRI

Research priorities

Not all GDG members felt that there is a need for further research. GDG members acknowledged that there are clinical trials ongoing regarding MRI-tailored screening for women with high breast density.

Research priorities included:

- Research into the **balance of effects**, including the potential risk of adverse events due to contrast reaction or intravenous procedures is required for MRI
- Research to improve the **specificity** of MRI-tailored screening
- Need to study **abbreviated protocols to make the intervention less costly and more acceptable.**

5. Women with high breast density

Tailored screening with ABUS

Issued on: February 2017

Healthcare question:

Should tailored screening with **automated breast ultrasound system** based on high mammographic breast density, in addition to mammography, vs. mammography alone be used for early detection of breast cancer in asymptomatic women?

Recommendation:

For asymptomatic women, with high mammographic breast density and negative mammography, in the context of an organised population-based screening programme, the ECIBC's Guidelines Development Group (GDG) suggests **not implementing tailored screening with automated breast ultrasound system (ABUS)**.

5. Women with high breast density

Tailored screening with HHUS

Issued on: February 2017

Healthcare question

Should tailored screening with **hand-held ultrasound** based on high mammographic breast density, in addition to mammography, vs. mammography alone be used for early detection of breast cancer in asymptomatic women?

Recommendation

For asymptomatic women, with high mammographic breast density and a negative mammography, in the context of an organised population-based screening programme, the ECIBC's Guidelines Development Group (GDG) suggests **not implementing** tailored screening with hand-held ultrasound (**HHUS**), **where such is not already the practice.**

Considerations for implementation and policy making

The GDG members felt that information and education for women about mammographic breast density is critical. The opinion of women regarding HHUS depends on the quality of the information provided to them with regards to the evidence behind this modality for tailored screening, including the information concerning the limitations or uncertainty about the effects of HHUS and inter-operator variability.

- The GDG expressed concern about the **quality assurance for HHUS in contexts where training is variable and screening is opportunistic and not organised.**
- No new technology would likely be necessary in most settings, although some institutions may not have the ultrasound equipment which fulfils the requirements for performing breast ultrasound.
- There are additional training requirements for radiologists performing HHUS.
- Pressure to implement HHUS exists, which may have to be considered with regards to the conditional recommendation against based on the evidence reviewed by the GDG.
- If resources and implementation are not a concern, or where HHUS has already been implemented, countries may decide to keep HHUS-based screening programmes.

6. Inviting women to screening programmes

Informing about benefits and harms: use of decision aids

Issued on: June 2021

Healthcare question

Should a **decision aid that explains the benefits and harms of screening** vs. an invitation letter be used for informing women about the benefits and harms of participating in an organised population-based breast cancer screening programme?

Recommendation

The ECIBC's Guidelines Development Group (GDG) suggests **using a decision aid that explains the benefits and harms of screening** over an invitation letter for informing women about the benefits and harms of participating in an organised population-based breast cancer screening programme.

6. Inviting women to screening programmes

Informing about benefits and harms: Numbers in addition to plain language

Issued on: May 2019

Healthcare question

Should **numbers** in addition to plain language vs. plain language alone be used for informing women about the benefits and harms of participating in an organised population-based breast cancer screening programme?

Recommendation

The ECIBC's Guidelines Development Group (GDG) recommends **using numbers in addition to plain language over plain language alone for informing women about the benefits and harms of participating** in an organised population-based breast cancer screening programme.

6. Inviting women to screening programmes

Informing about benefits and harms: Infographics in addition to plain language

Issued on: May 2019

Healthcare question

Should **infographics** vs. plain language with or without numbers be used for informing women about the benefits and harms of participating in an organised population-based breast cancer screening programme?

Recommendation

The ECIBC's Guidelines Development Group (GDG) suggests **using infographics in addition to plain language with numbers** over plain language with numbers alone for informing women about the benefits and harms of participating in an organised population-based breast cancer screening programme.

6. Inviting women to screening programmes

Informing about benefits and harms: Story telling in addition to plain language

Issued on: May 2019

Healthcare question

Should story telling vs. plain language with or without numbers be used for informing women about the benefits and harms of participating in an organised population-based breast cancer screening programme?

Recommendation

The ECIBC's Guidelines Development Group (GDG) suggests **not using story telling** in addition to plain language with numbers for informing women about the benefits and harms of participating in an organised population-based breast cancer screening programme.

6. Inviting women to screening programmes

Inviting women to screening: letter vs. no invitation

Issued on: May 2017

Healthcare question

Should a letter vs. no invitation to organised screening be used for inviting asymptomatic women to organised population-based breast cancer screening programmes?

Recommendation

The ECIBC's Guidelines Development Group (GDG) recommends **using a letter for inviting asymptomatic women between the ages of 50 to 69 with an average risk of breast cancer (in whom screening is strongly recommended)** to attend organised population-based breast cancer screening programmes.

Inviting women to screening: letter vs. no invitation

Justification

The GDG supported a strong recommendation for using a letter in women between the ages of 50-69 as it judged that the benefits measured by the **increase in participation in screening** (an adequate outcome for this age group) would outweigh the costs of producing and sending the letter. In addition, equity would increase with this intervention.

Subgroup considerations

The GDG noted that for women between the ages of 50 and 69, in whom screening is strongly recommended, the balance would favour the intervention because participation rate is an appropriate outcome. **Participation rate was not considered an appropriate outcome for the other age ranges.**

For women in the age groups 45-49 and 70-74, outcomes such as **confidence and satisfaction of the woman in making an informed decision are crucial** and the GDG advises interpretation of this intervention in the context of the recommendations on screening age ranges (please see point 2 in the implementation considerations).

7. Informing women about their results

Negative result: letter vs. nothing

Issued on: June 2018

Healthcare question

Should a letter vs. nothing be used for informing women who have a negative screening result?

Recommendation

The ECIBC's Guidelines Development Group (GDG) suggests **using a letter for informing women who have a negative screening result.**

7. Informing women about their results

Negative result: timing of results

Issued on: July 2021

Healthcare question

What is the best **timing** to inform women who have a negative result?

Recommendation

Women with a negative mammography screening result should be informed about their test result **as soon as possible but not beyond 30 days after the mammogram** (ungraded good practice statement).

7. Informing women about their results

Further assessment: letter followed by a phone call

Issued on: June 2018

Healthcare question

Should a letter followed by a phone call to remind vs. a letter alone be used for inviting women for further diagnostic assessment?

Recommendation

The ECIBC's Guidelines Development Group (GDG) suggests **using a letter followed by a phone call over a letter alone for inviting women for further diagnostic assessment**, in the context of an organised population-based screening programme.

7. Informing women about their results

Further assessment: timing of results

Issued on: July 2021

Healthcare question

What is the best timing to invite women for further assessment?

Recommendation

Women with a **positive mammography screening result** should be informed about their test result in a **timely and sensitive manner and scheduled for further assessment as soon as possible** (ungraded good practice statement).

European quality assurance scheme for breast cancer services

The European quality assurance scheme defines a **common set of both quality and safety requirements for breast cancer services** wishing to improve the quality of care offered to women.

The scheme is designed to be implemented on a **voluntary basis** and covers **all the relevant care processes from screening until end-of-life care**. Services compliant with the requirements can apply for **certification**.

Manuals have been developed for each main actor involved in the **European quality assurance (QA) scheme implementation process**.

The current versions of the manuals have been used to **assess its feasibility in real settings** and to pilot the certification process. A final version of the QA scheme will be prepared based on the outcomes obtained.

Scheme owner

This manual sets out how the **QA scheme is organised, managed and maintained and how the certification process is carried out**. The aim is to provide full details on scheme owner requirements for breast cancer services and certification bodies participating in the QA scheme.

Separate checklists have been prepared for each of the modules described in the manual to facilitate the auditing process.