

Diagnosis and Treatment of Patients with early and advanced Breast Cancer



© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
Version 2025.1E

Breast Cancer Risk, Genetics and Prevention

Breast Cancer Risk and Prevention

© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
Version 2025.1E

- **Versions 2003–2024:**

Albert / Bischoff / Blohmer / Dall / Ditsch / Fasching / Fehm / Gerber / Gluz / Kiechle / Maass / Müller-Schimpfle / Mundhenke / Park-Simon / Rhiem / Rody / Schmidt / Schmutzler / Schütz / Stickeler / Thomssen / Untch / Witzel

- **Version 2025:**

Albert / Rhiem

Germline Testing – Therapeutic Consequences

© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Irrespective of family history

Guidelines Breast
Version 2025.1E

gBRCA1/2 pV
gPALB2 pV

Oxford		
LoE	GR	AGO
1a	A	++
2b	B	+

Therapy of likely pathogenic / pathogenic germline variants - Associated Breast Cancer

Oxford

	LoE	GR	AGO
<ul style="list-style-type: none"> Breast conserving surgery according common standard (adequate local tumor control in long time follow up, IBTR RR 1,6, no worse overall survival, Follow-up ≥ 10 years observation) 	2a	B	+
<ul style="list-style-type: none"> Systemic therapy according to common standard 	3a	B	+
<ul style="list-style-type: none"> <i>gBRCA</i> pathogenic variants (pV) is predictive for neoadjuvant chemotherapy in early TNBC 	2b	B	
<ul style="list-style-type: none"> <i>gBRCA</i> pV is predictive for Carboplatin (vs. Docetaxel) in metastatic breast cancer 	1b	B	
PARP inhibitor (Her2-negative carcinoma):			
<ul style="list-style-type: none"> eBC high risk: <ul style="list-style-type: none"> Olaparib (in case of <i>gBRCA1/2</i> pV)* 	1b	A	++
<ul style="list-style-type: none"> mBC: <ul style="list-style-type: none"> Olaparib, Talazoparib in <i>gBRCA 1/2</i> pV Olaparib in <i>sBRCA 1/2</i> pV (somatic mutation) Olaparib in <i>gPALB2</i> pV 	1b	A	++
	2b	B	+
	2b	B	+

eBC: Early Breast Cancer; mBC: Metastatic Breast Cancer; pV: likely pathogenic / pathogenic variant (class 4/5) = mutation; IBTR: ipsilateral breast tumor recurrence; * Use according to study inclusion criteria and approval



© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
Version 2025.1E

www.ago-online.de

FORSCHEN
LEHREN
HEILEN

Indication for Genetic testing of Index Patient in the *BRCA1/2* Genes and possibly other Risk Genes

Oxford LoE: 2a GR: B AGO: ++

If one of these criteria of the German Familial Breast and Ovarian Cancer Consortium (DK-FBREC) is present, the probability of detecting a probable pathogenic / pathogenic germline variant (pV) in the BRCA1 and BRCA2 mutation genes is $\geq 10\%$, EBM reimbursement guaranteed. Examination within and outside an DK-FBREC center possible for.

From one family branch at least*

- three women with breast cancer independent of age
- two women with breast cancer, one diagnosed before the 51st birthday
- one woman affected by breast and one by ovarian cancer or
- one woman affected by breast and ovarian cancer or
- two women affected by ovarian cancer or
- one woman affected by bilateral breast cancer, first before 51st birthday
- one woman affected by breast cancer before the 36th birthday or
- one man affected by breast cancer and one woman affected by breast or ovarian cancer

- All mutation carriers should be registered in scientific databases, to validate the inclusion and exclusion criteria (including population-based studies).

Indication for Genetic Examination of Index Patient *BRCA1/2* Genes and Possibly Further Risk Genes

Oxford LoE: 2b GR: B AGO: ++

- **For further recommended criteria:**
 - one disease of triple negative breast cancer diagnosed before 70th birthday*
 - one disease of ovarian cancer before 80th birthday*
 - one man affected by breast cancer

a significance for at least a 10% probability of detecting likely pathogenic / pathogenic variants (pV) has not yet been conclusively established. Therefore, they must be further systematically validated.

* Cost coverage at the DK-FBREK centers

Extended Indication for Genetic Testing of the Genes *BRCA1*, *BRCA2*, *TP53*, *PALB2*, *CDH1*, *PTEN*, *STK11* and Further Risk Genes (according NCCN)



© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
Version 2025.1E

- **Genetic Testing can be performed in patients with**
 - **Age at first diagnosis ≤ 65 years, irrespective of family history**
 - **Triple-negative histology and age at first diagnosis > 60 years, especially in families with further breast cancer cases (irrespective of age at diagnosis)**
 - **Invasive lobular histology and diffuse gastric cancer in the family history**
 - **In families with pancreatic cancer history and high risk prostate cancer history**
 - **Ashkenazi jews**

These indications have not been validated with regard to their pV prevalence.

Cave: frequent VUS and decreased penetrance

Checklist for Recording a Possible Hereditary Burden of Breast and/or Ovarian Cancer



© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
Version 2025.1E

Name Patientin/Patient: Geburtsdatum:

A. Patientin und deren Geschwister / Kinder

Auftreten bei Patientin/Patient	Anzahl	Gewichtung	Ergebnis
eines Mammakarzinoms bei der Patientin vor dem 36. Geburtstag		3	0
eines triple-negativen Mammakarzinoms bei der Patientin vor dem 60. Geburtstag*		3	0
eines unilateralen Mammakarzinoms bei der Patientin vor dem 50/51* Geburtstag		2	0
eines bilateralen Mammakarzinoms bei der Patientin, das erste vor dem 50/51* Geburtstag		3	0
eines uni- oder bilateralen Mammakarzinoms bei der Patientin nach dem 51. Geburtstag		1	0
eines uni- oder bilateralen Mammakarzinoms bei dem Patienten (männlich)		2	0
eines Ovarialkarzinoms bei der Patientin vor dem 60. Geburtstag*		3	0
eines Ovarial-Tuben-primären Peritonealkarzinoms bei der Patientin		2	0
Auftreten bei Kindern, Geschwistern und deren Kindern			
eines Mammakarzinoms bei Schwestern/Töchtern/Nichten vor dem 36. Geburtstag		3	0
eines unilateralen Mammakarzinoms bei Schwestern/Töchtern/Nichten vor dem 50/51* Geburtstag		2	0
eines bilateralen Mammakarzinoms bei Schwestern/Töchtern/Nichten, das erste vor dem 50/51* Geburtstag		3	0
eines uni- oder bilateralen Mammakarzinoms bei Schwestern/Töchtern/Nichten nach dem 51. Geburtstag		1	0
eines uni- oder bilateralen Mammakarzinoms bei Brüdern/Söhnen/Neffen		2	0
eines Ovarial-Tuben-primären Peritonealkarzinoms bei Schwestern/Töchtern/Nichten		2	0
		A	0

B. Mütterliche Linie (incl. Mutter)

Auftreten	Anzahl	Gewichtung	Ergebnis
eines Mammakarzinoms bei einer Angehörigen vor dem 36. Geburtstag		3	0
eines unilateralen Mammakarzinoms bei einer Angehörigen vor dem 50/51* Geburtstag		2	0
eines bilateralen Mammakarzinoms bei einer Angehörigen, das erste vor dem 50/51* Geburtstag		3	0
eines uni- oder bilateralen Mammakarzinoms bei einer Angehörigen nach dem 51. Geburtstag		1	0
eines Mammakarzinoms bei einem angehörigen Mann		2	0
eines Ovarial-Tuben-primären Peritonealkarzinoms bei einer Angehörigen		2	0
Summe weitere mütterliche Linie			
		B	0

C. Väterliche Linie (incl. Vater)

Auftreten	Anzahl	Gewichtung	Ergebnis
eines Mammakarzinoms bei einer Angehörigen vor dem 36. Geburtstag		3	0
eines unilateralen Mammakarzinoms bei einer Angehörigen vor dem 50/51* Geburtstag		2	0
eines bilateralen Mammakarzinoms bei einer Angehörigen, das erste vor dem 50/51* Geburtstag		3	0
eines uni- oder bilateralen Mammakarzinoms bei einer Angehörigen nach dem 51. Geburtstag		1	0
eines Mammakarzinoms bei einem angehörigen Mann		2	0
eines Ovarial-Tuben-primären Peritonealkarzinoms bei einer Angehörigen		2	0
Summe väterliche Linie			
		C	0

D. Der höhere Wert aus B und C

D 0

E. Summe aus A und D = Risiko-Score

A+D 0



Ausfüllhinweis

Zunächst wird die Anzahl bekannter Erkrankungsfälle bei den Geschwistern und Kindern, einschließlich der aktuellen Erkrankung der Patientin sowie in der mütterlichen und väterlichen Linie erfragt.

Diese Zahlen werden mit den jeweiligen Erkrankungsfälle bei den Geschwistern und Kindern, einschließlich der aktuellen Erkrankung der Patientin sowie in der mütterlichen und väterlichen Linie erfragt.

Der höhere der beiden Werte aus den Feldern B und C wird in Feld D eingetragen.

Der Gesamtscore errechnet sich dann aus der Summe der Felder A und D.

Eine **Risikobewertung** in den ausgewiesenen Zentren ist bei Scores **2** oder **3** Punkten zu empfehlen.

*Diese Einschlusskriterien gelten nur in Kooperation mit den Zentren des Deutschen Konsortiums Familiärer Brust- und Eierstockkrebs bzw. mit den zertifizierten FBREK-Zentren, die diese im Rahmen der Wissen generierenden Versorgung validieren. Die anderen Einschlusskriterien entsprechen den Vorgabe des EBM.

Version: 11. Januar 2022 (C)
Ärztkammer Westfalen-Lippe,
Deutsche Krebsgesellschaft,
Deutsche Gesellschaft für Senologie,
Deutsches Konsortium für Erblichen Brust- und Eierstockkrebs

Online checklist for familial breast and ovarian cancer:



Source: Deutsche Krebsgesellschaft e.V.

NEW 01.01.2025

www.ago-online.de

FORSCHEN
LEHREN
HEILEN

Risk Estimation for Syndrome-Associated Breast Cancer (non-BRCA)

Oxford		
LoE	GR	AGO
2b	B	++

History and family history over at least three generation (including age of first disease)

- **Characteristic disease:**
 - Breast and ovarian cancer
- **Further disease:**
 - Pancreatic, thyroid, colorectal, stomache, hepatobiliar, urogenital, lung cancer, melanoma, osteosarcoma, leukemia, lymphoma
 - Kidney cancer
 - Testinal cancer
 - Endometrial cancer
 - Prostate cancer

Non BRCA-Associated Hereditary Cancer Syndromes with Increased Risk for Breast Cancer

© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
Version 2025.1E

Syndrome	Gene	Risk for malignancy
Li Fraumeni	<i>TP53</i>	Breast, endometrium, colorectal, small intestine, stomach, hepato biliary, skin, osteosarcoma, soft tissue sarcoma, urogenital, CNS, ACC, leukemia, lymphoma, lung
Cowden	<i>PTEN</i>	Breast, endometrium, thyroid, colorectal, kidney, melanoma
Hereditary diffuse gastric cancer syndrome	<i>CDH1</i>	Hereditary diffuse gastric cancer, lobular invasive breast cancer
Peutz-Jeghers Syndrome	<i>STK11/LKB1</i>	Colorectal, small intestine, stomach, pancreas, testicle, endometrium
Lynch	<i>MLH1, MSH2, MSH6, PMS2, EPCAM</i>	Endometrium, ovary, colorectal, small intestine, stomach, hepato biliary, pancreas, kidney, urogenital, CNS
Ataxia telangiectasia (AT-Syndrome)	<i>ATM</i>	Breast cancer, leukemia, stomach, melanoma, sarcoma
Fanconi Anämie	<i>BRCA2, BRIP1, RAD51C, PALB2</i>	AML, MDS, SCC, medulloblastoma, nephroblastoma, breast, pancreas, ovary

Non-Directive Counseling Regarding Preventive Measures

AGO ++

- **According to:**
 - **The Genetic Diagnostic Law**
 - **The Medical Devices Act (e.g. risk assessment)**
- **Application of software for risk calculation requires professional training and experience (Software must be certified)**
- **Communication and consideration of:**
 - **Absolute cancer risks within a manageable timeframe**
 - **Risk and benefit of a multimodal intensive surveillance program**
 - **Risk and benefit of preventive clinical methods**
 - **Competing risks, e.g. risk of disease progression in relation to risk of a secondary primary in case women already affected by primary breast cancer**
- **Allow appropriate time for consideration**

Current Clinical Impact of Further Risk Genes and Variants

- Further moderate and low-risk gene variants are most likely transmitted in particular by an oligo- or polygenic trait.
- The penetrance of such genes is modified by own and family cancer history.
- Individual low-risk variants increase the risk of disease only insignificantly. They have a multiplicative effect, so that the analysis of multiple gene regions (polygenic risk score, PRS) will be of clinical relevance.

- Clinical genetic testing of moderate-risk genes, e.g. gene panels

- Clinical genetic testing for low-risk variants (polygenic risk score, PRS)

- Referral to specialised centers

Oxford

LoE	GR	AGO
-----	----	-----

1b	B	+*
----	---	----

2b	B	+*
----	---	----

5	D	+
---	---	---

* Currently, moderately penetrant genes and low-risk variants should only be examined in the context of prospective cohort studies, such as that of the German consortium, in order to assess the clinical benefit.

Pathogenic Variants with Moderate to High Lifetime Risk for Breast Cancer



© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
Version 2025.1E

	Oxford		
	LoE	GR	AGO
Age-related risks for breast cancer			
▪ high: <i>BRCA1, BRCA2, PALB2</i>			
▪ high: <i>CDH1, PTEN, TP53; STK11</i>			
▪ moderate: <i>ATM, CHEK2</i>			
▪ moderate: <i>BARD1, RAD51C, RAD51D</i>			
Clinical benefit* of a genetic test			
▪ <i>BRCA1, BRCA2</i>	1b	A	++**
▪ <i>PALB2</i>	3a	B	+**
▪ <i>CDH1, PTEN, TP53, STK11</i>	3b	B	+**
▪ <i>ATM, BARD1, CHEK2, RAD51C, RAD51D</i>	3a	B	+/-**

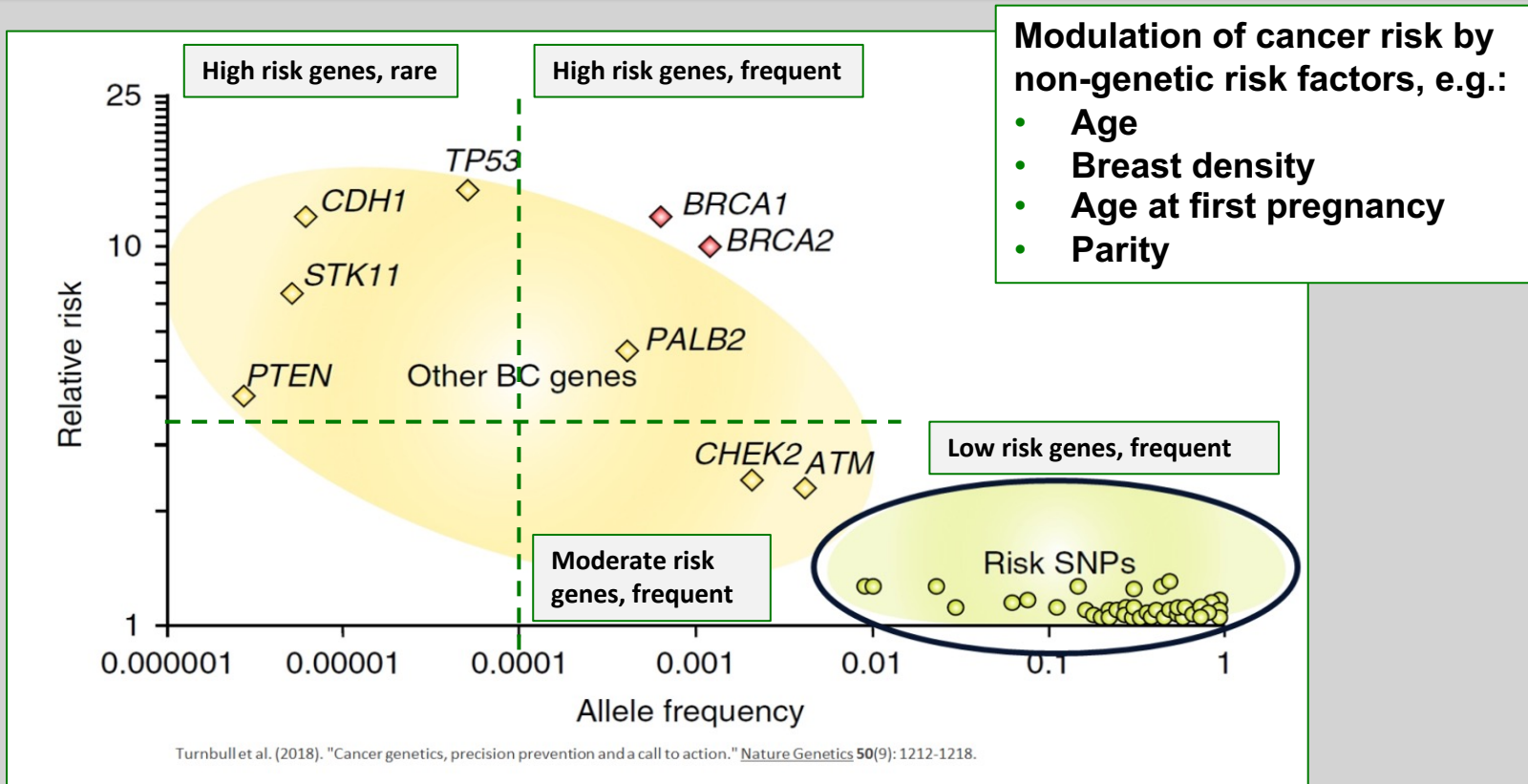
* Take into account the effectiveness of preventive measures and competing risks when making clinical decisions.

** Participation in prospective registries or studies is highly recommended.

State of Research: Relevance of Genetic and non-Genetic Risk Factors

© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

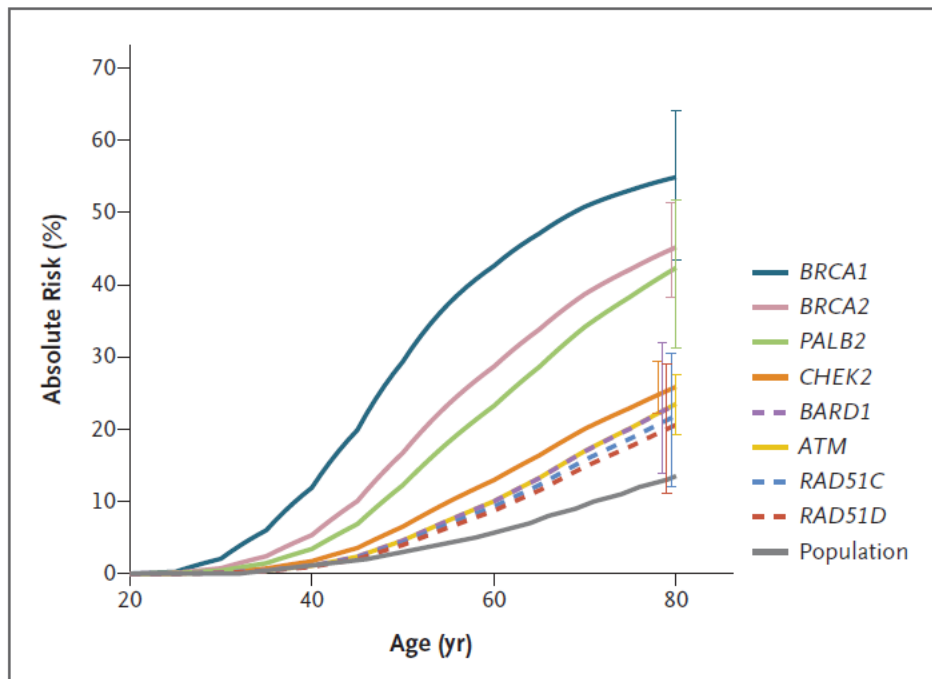
Guidelines Breast
Version 2025.1E



Estimated Cumulative Risk of Breast Cancer with Protein-Truncating Variants in 8 Genes

© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
Version 2025.1E



Shown are cumulative risks of breast cancer through 80 years of age for protein-truncating variants in 8 genes that had significant evidence of an association with breast cancer overall, on the basis of estimated odds ratios from population-based studies. Baseline absolute risks were derived from population incidences in the United Kingdom in 2016. The I bars indicate 95% confidence intervals.
Dorling L, Carvalho S, Allen J et al. Breast-Cancer Risk Genes — Association Analysis in More than 113,000 Women. January 20, 2021 DOI: 10.1056/NEJMoa1913948

Breast Cancer Risk Category

Definition of Moderate / High Risk for Breast Cancer

© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
Version 2025.1E

Breast cancer risk category

	Near population risk of breast cancer	Moderate risk of breast cancer	High risk of breast cancer
Lifetime risk from age 20	Less than 17%	Greater than 17% but less than 30%	30% or greater
Risk between ages 40 and 50	Less than 3%	3 to 8%	Greater than 8%

ACMG/AMP Variant Classification of Guidelines

(Tavtigian SV et al., Human Mutation, 2020)



© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
Version 2025.1E

Class	Description	Probability of being pathogenic
5	Definitely pathogenic	> 0.99
4	Likely pathogenic	0.95-0.99
3	Uncertain	0.05-0.949
2	Likely not pathogenic or of little clinical significance	0.001-0.049
1	Not pathogenic or no clinical significance	< 0.001

**Only class 4 and class 5 variants are considered clinically relevant.
Class 3 are considered as Variants of Unknown Significance (VUS).**

www.ago-online.de

FORSCHEN
LEHREN
HEILEN

Variant of Unknown Significance (VUS): Problems and Questions



© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
Version 2025.1E

- „A Variant of Unknown Significance (VUS) is a genetic variant with unknown clinical relevance.“ (Plon et al. Hum Mutat 2008)
- Most VUS are extremely rare (≤ 3 families in $> 80\%$ of variants)
- Classification of sequence variants should be performed according to ACMG/ClinGen and genspecific recommendations should be taken into account
- Frequency of VUS increases with numbers of tested genes
- In silico prediction tools alone are not adequate or sufficient for clinical decision making
- The classification of variants should always be based on all available, preferentially quantitative, information including data from functional analyses, segregation analyses, large case-control studies and population databases such as gnomAD should be taken into account.

www.ago-online.de

FORSCHEN
LEHREN
HEILEN



Multimodal Intensified Surveillance Program (IFNP)

Oxford

LoE GR AGO

The IFNP with the addition of MRI, breast ultrasound and mammogram

- should be used for *BRCA1/2* pV carriers
- can be used for pV carriers of other risk genes for breast cancer
- can be used for tested women without evidence of pV between 30 and 50 years with a breast cancer risk of $\geq 5\%$ in 10 years
- can be used in follow-up care after initial disease ≤ 45 years, fulfillment of the FBREK criteria and without evidence of pV

++

as part of systematically collected, transparent quality assurance and corresponding evaluation of results.

- For detection of early stage breast cancers
- For improvement of metastasis-free interval
- For mortality reduction (10-year survival)

2a

B

++

2b

B

+

3a

C

+/-

Patients who have undergone therapeutic radiation of the chest wall in childhood and adolescence (e.g. Hodgkin's disease, see S3 guideline Hodgkin's disease) can be included in the-Surveillance Program

© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
Version 2025.1E

www.ago-online.de

FORSCHEN
LEHREN
HEILEN

High-Risk Breast Cancer Surveillance with MRI

© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
Version 2025.1E

	30-39 years		40-49 years		≥ 50 years	
	Detection rate (‰)	PPV (%)	Detection rate (‰)	PPV (%)	Detection rate (‰)	PPV (%)
<i>BRCA1</i>	43.2	29.4	21.8	25.5	30.5	33.3
<i>BRCA2</i>	22.7	23.3	24.3	27.5	16.3	23.5
<i>BRCA1/2</i> -non carriers with high risk	2.9	2.8	7.4	6.8	10.9	13.8

PPV: Positive predictive value

Detection performance of annual multimodality screening rounds with MRI by risk group and age (healthy women).

Bick U, Engel C, Krug B, et al. High-risk breast cancer surveillance with MRI: 10-year experience from the German consortium for hereditary breast and ovarian cancer. *Breast Cancer Res Treat.* 2019;175(1):217–228. doi:10.1007/s10549-019-05152-9

Modified Surveillance Program for *BRCA*-neg. Women at Moderate to High Risk or Survivors of Hodgkin Disease

© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
Version 2025.1E

Rationale:

- Increased risk of breast cancer after chest irradiation because of Hodgkin lymphoma in childhood (9-18 years)
- Increased risk of breast or ovarian cancer in women from *BRCA1/2* negative families at risk that is, however, lower than in women from *BRCA1/2* positive families
- Referral to centres of the GC-HBOC or cooperating centres for the evaluation of structured surveillance and follow-up

Surveillance for Male Carriers of Pathogenic BRCA Mutations*



Oxford

LoE GR AGO

**Currently, no specific surveillance is recommended →
Early detection of cancer as part of standard care**

- | | | | |
|--|----------|----------|-----------|
| ▪ BRCA1/2 mutation carrier: explanation of risks for cancer disease including male family members | 5 | D | ++ |
| ▪ For breast cancer: self examination | 5 | D | + |
| ▪ For prostate cancer: Compare German Guideline program | 5 | D | ++ |

The lifetime risk of breast cancer in the general male population is 0.1% the lifetime risk for prostate cancer is 10-12%. *BRCA1* mutation carriers have a risk of breast cancer until 80 years of age of about 0,4% and a risk for prostatic cancer as in the general male population. *BRCA 2* mutation carriers have an up to 4% lifetime risk for breast cancer and a lifetime risk up to 30% for prostatic cancer.

- * Follow-up care / surveillance should be carried out as part of transparent quality assurance and appropriate evaluation.

© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
Version 2025.1E

www.ago-online.de

FORSCHEN
LEHREN
HEILEN

Surgical Prevention

© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
Version 2025.1E

- **Risk-reducing unilateral or bilateral mastectomy (RRME) without the presence of clearly defined genetic risk factors**
- **Axillary dissection or Sentinel lymph node excision during RRME**

Oxford		
LoE	GR	AGO
2a	B	-
2a	B	--

Surgical Prevention for Healthy Female *BRCA1/2* Mutation Carriers

© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
Version 2025.1E

	Oxford		
	LoE	GR	AGO
<ul style="list-style-type: none"> Risk-reducing bilateral salpingo-oophorectomy (RR-BSO)** <ul style="list-style-type: none"> Reduces OvCa incidence and mortality Reduces overall mortality 	2a	B	++*
<ul style="list-style-type: none"> Risk-reducing bilateral mastectomy (RR-BM) <ul style="list-style-type: none"> Reduces BC incidence Reduces BC mortality in <i>BRCA1</i> mutation carriers*** 	2b	B	+*
	2b	B	+*

* Study participation recommended

** The RR-BSO is recommended from about 35 years for *BRCA1* and from about 40 years for *BRCA2* mutation carriers, taking into account the age of ovarian cancer diagnosis in the family and the family planning status.

*** No reduction in mortality could be shown for *BRCA2* mutation carriers. RRBM counselling should be individualised.

Risk-reducing Interventions for BRCA1/2 Female Mutation Carriers Affected by Breast Cancer



© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
Version 2025.1E

	Oxford		
	LoE	GR	AGO
<ul style="list-style-type: none"> ▪ Risk-reducing bilateral salpingo-oophorectomy (RR-BSO) <ul style="list-style-type: none"> ▪ Reduces OvCa incidence and mortality ▪ Reduces overall mortality (contradictory results for reduction of cl BC incidence) 	2b	B	+*
<ul style="list-style-type: none"> ▪ Prophylactic contralateral mastectomy (RR-CM)* <ul style="list-style-type: none"> ▪ Reduces BC incidence and mortality 	2b	B	+*
<ul style="list-style-type: none"> ▪ Tamoxifen (reduces contralateral BC incidence) 	2b	B	+/-*
<ul style="list-style-type: none"> ▪ Indication for RR-CM should consider age at onset of first breast cancer in affected gene 	2a	B	++*
<ul style="list-style-type: none"> ▪ RR-BM after ovarian cancer 	4	C	+/-**

* Study participation recommended

** Depends on tumor stage (FIGO I/II), recurrence free interval (≥ 5 yrs.), age

Medical Prevention for Women at Increased Risk

© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
Version 2025.1E

- **Tamoxifen for women > 35 years:
Risk reduction of invasive BC, DCIS and LN**
- **Raloxifen for postmenopausal women:
Risk reduction of invasive BC only**
- **AI for postmenopausal women**

Oxford		
LoE	GR	AGO
1a	A	+*
1b	A	+*
1b	A	+**

* Risk situation as defined in NSABP P1-trial (1.66% in 5 years) or according to #Tyrrer-Cuzick model (IBIS-II)

** Significant risk reduction was seen for anastrozole for ovarian and endometrial cancer, as well as skin, colorectal, hematologic, thyroid and urinary tract cancers. Chemopreventive regimes should only be offered after individual and comprehensive counseling. The net benefit strongly depends on risk status, age and pre-existing risk factors for side effects.