BASISMAMMOGRAPHIE

Kurzrecherche

Soweit in diesem Kontext personenbezogene Bezeichnungen nur in weiblicher oder nur in männlicher Form angeführt sind, beziehen sie sich generell auf Frauen und Männer in gleicher Weise.

1 Inhaltsverzeichnis

2 Fragestellung

Gibt es Daten in der Literatur zu Basismammographie als Vorsorge um das 35. Lebensjahr? Kann eine evidenzbasierte Empfehlung für ein solches Vorgehen ausgesprochen werden?

3 Kurzbericht

Das Mammakarzinom ist in der westlichen Welt die häufigste zum Tode führende bösartige Erkrankung der Frau. Der wichtigste Risikofaktor neben dem weiblichen Geschlecht für eine Brustkrebsentstehung ist das Alter. Systematische Krebsfrüherkennungsuntersuchung im Sinne von Brustkrebsscreeningprogrammen existieren in Europa bereits seit mehreren Jahrzehnten. In Ländern wie Deutschland und Österreich wurde primär ein opportunistisches Screening angeboten. Derzeit bestehen in sechs der neun Bundesländer Österreichs regionale Pilotprojekte oder artikulierte Bestrebungen ein organisiertes Screening zu installieren. Unterschiede gibt es in der regionalen Ausdehnung und dem damit in Zusammenhang stehenden Ausmaß des Screenings. Betreffend den organisatorischen Ablauf, die klinischen Standards und das Alter der Zielgruppen sind sie ähnlich strukturiert.

Zur Frage einer Basismammographieuntersuchung um das 35. Lebensjahr wurde eine Literatursuche nach Sekundärliteratur wie Leitlinien, Systematischen Reviews und Meta Analysen durchgeführt.

Weitgehend unumstritten ist die Empfehlung für ein Mammographiescreening zwischen dem 50. und 69. Lebensjahr. Für ein Mammographiescreening ab dem 40. Lebensjahr gibt es unterschiedliche Positionen: American Cancer Society[1], American College of Obstetricians and Gynecologists[2], American College of Physicians[3], U.S. Preventive Services Task Force[4] und National Comprehensive Cancer Network[5] empfehlen Mammographiescreening ab dem 40. Lebensjahr, alle 1 bis 2 Jahre. Für die Arbeitsgruppe „Konzertierte Aktion Brustkrebs-Früherkennung in Deutschland“ ist die Wirksamkeit der Früherkennungsmammographie für Frauen zwischen dem 50. und 70. Lebensjahr, und neuerdings auch zwischen dem 40. und 50. Lebensjahr bewiesen. Die Canadian Task Force on Preventive Health Care spricht keine Empfehlung aus, weder für noch gegen ein Mammographiescreening für Frauen zwischen dem 40. bis 50. Lebensjahr mit einem durchschnittlichen Risiko für Brustkrebs.

Die Mehrzahl der Meta Analysen sieht einen Benefit im potentiellen Rückgang der Brustkrebsmortalität[6,7,8] für Screening zwischen dem 40. und 49. Lebensjahr. Die European Society of Breast Cancer Specialists (EUSOMA) empfiehlt das Mammographiescreening für Frauen ab dem 50. Lebensjahr, spricht sich jedoch aufgrund nicht gesicherter Effektivität für Frauen zwischen dem 40. und 50. Lebensjahr gegen ein Screening aus.

Die Empfehlungen bezüglich Mammographiescreening ab dem 40. Lebensjahr betreffen Frauen mit einem durchschnittlichen Risiko für Brustkrebs. Für Frauen, mit einem hohen Risiko in früheren Jahren Brustkrebs zu entwickeln, kann jährliches Screening zu einem früheren Zeitpunkt angemessen sein. Das sind Frauen mit Brustkrebs, nach thorakaler Bestrahlung wegen Morbus Hodgkin, BRCA positive Frauen, Frauen mit einer positiven Familienanamnese bezüglich eines Brustkrebs in jungen Jahren einer Verwandten ersten Grades und Frauen mit histologischer Diagnose eines in situ lobulären Mammacarcinoms oder atypischer duktaler Hyperplasie.[9]

Als potentielles Risiko assoziiert mit Mammographiescreening zwischen dem 40. und 49. Lebensjahr werden höhere Raten falsch positiver Befunde angegeben, wobei die falsch positiven Raten innerhalb der Studien stark variieren.[10]

In der Literatur findet sich **keine Empfehlung bezüglich einer Basismammographie um das 35. Lebensjahr im Rahmen eines Screenings für Frauen mit einem durchschnittlichen Risiko für Brustkrebs**.

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4 Brustkrebs

4.1 Risikofaktoren

Das Mammakarzinom ist in der westlichen Welt die häufigste zum Tode führende bösartige Erkrankung der Frau. Die eigentliche Entstehungsursache ist unbekannt. Es gibt jedoch eine Reihe von Risikofaktoren, zu denen die hormonelle Situation, insbesondere der Sexualsteroidhormone, reproduktives Verhalten, Lebensstil, sowie Ernährungsgewohnheiten zählen. Trotz einer Vielzahl experimenteller und epidemiologischer Untersuchungen ist es bisher nicht gelungen, die exakte Rolle der Sexualsteroide bei der Entwicklung des Mammakarzinoms aufzuklären.

Der wichtigste Risikofaktor neben dem weiblichen Geschlecht für eine Brustkrebsentstehung ist das Alter.

Risikofaktoren für die Entwicklung des Mammakarzinoms[11]

	Relatives Risiko
Männer : Frauen	1 : 100
Alter 25 Jahre : Alter 45 Jahre	1 : 20
Menopause mit 42 Jahren : Menopause mit 52 Jahren	1 : 2
Menarche mit 14 Jahren : Menarche mit 11 Jahren	1 : 1,3
Multiparität : Nulliparität	1 : 1,3
Erste Geburt mit 20 Jahren : erste Geburt mit 35 Jahren	1 : 1,4
5 Jahre Stillen : kein Stillen	1 : 1,2
Keine Ovulationshemmer : Anwendung von Ovulationshemmern	1 : 1,1
Keine Hormonsubstitution : mit Hormonsubstitution	1 : 1,3
Kein Alkohol : Alkoholkonsum ≥ 20 g täglich	1 : 1,3

4.2 Individuelle Risikoberatung

Bei Vorliegen von Risikofaktoren muss eine individuelle Früherkennungsstrategie besprochen und empfohlen werden. Eine individuelle Risikoaufklärung in Anlehnung an das GAIL- Modell [12,13] (Computerprogramm zur Abschätzung des Risikos für die Entwicklung eines Brustkrebses) umfasst das absolute Risiko, die genetische Risikokonstellation, Beratung zur individuellen Risikoreduktion bezüglich Ernährung, eine Lebensstilberatung und Beratung zur Selbstuntersuchung. Bei Vorliegen

spezieller Risikoprofile ist eine entsprechende individuelle Strategie der Früherkennung indiziert.

4.3 Inzidenz

Brust (C50) - Krebsinzidenz (Neuerkrankungen pro Jahr), Österreich ab 1983[14]

	absolute Zahlen[15]			altersstandardisierte Raten[16]			kumulative Raten[17]		
Jahr	Insgesamt	Männer	Frauen	Insgesamt	Männer	Frauen	Insgesamt	Männer	Frauen
1983	3.394	33	3.361	32,5	0,8	56,5	3,4	0,1	5,9
1984	3.595	28	3.567	34,1	0,6	59,4	3,5	0,1	6,2
1985	3.548	34	3.514	33,5	0,8	58,5	3,4	0,1	6,0
1986	3.476	34	3.442	32,5	0,8	56,6	3,3	0,1	5,8
1987	3.595	31	3.564	33,8	0,7	59,4	3,4	0,1	6,0
1988	4.001	30	3.971	37,2	0,7	65,4	3,8	0,1	6,7
1989	4.056	21	4.035	37,4	0,4	66,2	3,8	0,0	6,8
1990	3.813	35	3.778	34,9	0,8	61,7	3,5	0,1	6,3
1991	3.943	22	3.921	36,2	0,5	64,8	3,7	0,1	6,7
1992	4.143	32	4.111	37,1	0,7	66,0	3,8	0,1	6,8
1993	4.438	42	4.396	39,7	0,9	71,0	4,0	0,1	7,2
1994	4.442	32	4.410	39,4	0,7	70,7	4,0	0,1	7,2
1995	4.422	34	4.388	39,2	0,7	71,0	4,0	0,1	7,3
1996	4.582	29	4.553	39,6	0,6	71,6	4,0	0,1	7,3
1997	4.936	53	4.883	42,7	1,0	77,4	4,3	0,1	8,0
1998	4.769	47	4.722	41,0	0,9	74,8	4,1	0,1	7,7
1999	4.622	38	4.584	39,6	0,7	72,7	3,9	0,1	7,4
2000	4.798	41	4.757	40,1	0,8	73,6	4,0	0,1	7,6
2001	4.960	41	4.919	41,5	0,8	76,9	4,2	0,1	8,0
2002	4.847	50	4.797	39,7	0,8	73,6	4,0	0,1	7,6
2003	4.864	56	4.808	39,2	1,0	72,4	4,1	0,1	7,7
2004	4.899	67	4.832	39,3	1,2	72,9	4,0	0,1	7,6

Brustkrebs ist mit einem Anteil von 28% an allen Tumoren der Frauen seit langem die häufigste Krebserkrankung bei Frauen, Tendenz steigend. Seit 1997 ist allerdings die Zahl der Neuerkrankungen stabil. Die absolute Zahl der Neuerkrankungen pro Jahr liegt nun bei 4.800, das Erkrankungsrisiko vor dem 75. Lebensjahr bei rund 8%.

4.4 Brustkrebs-Früherkennung

Eine qualitätsgesicherte und flächendeckende Brustkrebs-Früherkennung ist derzeit die einzige Möglichkeit, eine wesentliche Versorgungsverbesserung zu erreichen und die Heilungsmöglichkeiten unter Erhalt der Lebensqualität betroffener Frauen deutlich anzuheben.[18]

Prinzipien der Brustkrebs-Früherkennung

- Häufigere Entdeckung von Brustkrebsvorstufen und damit Verhinderung einer manifesten Tumorerkrankung
- Häufigere Entdeckung von Brustkrebsfrühformen und damit Erhöhung der Heilungschancen und Senkung der Brustkrebssterblichkeit
- Häufigere Heilung durch weniger belastende Therapieverfahren und damit Minimierung der Lebensqualitätseinschränkung betroffener Frauen

5 Leitlinien

5.1 Stufe-3-Leitlinie Brustkrebs-Früherkennung in Deutschland[19]

Die Mammographie ist zurzeit die einzige für die Erkennung von Brustkrebsvorstufen oder frühen Tumorstadien allgemein als wirksam anerkannte Methode [**IA**]. Prospektiv randomisierte Studien zeigen, dass mit der Einführung einer Screening - Mammographie als Röntgen-Reihenuntersuchung eine altersabhängige Brustkrebssterblichkeitsreduktion um 20–40% möglich ist. Aufgrund der randomisierten Studien ist eine Wirksamkeit der Früherkennungsmammographie für Frauen zwischen dem 50. und 70. Lebensjahr, neuerdings auch zwischen dem 40. und 50. Lebensjahr, belegt, aber auch nach dem 70. Lebensjahr anzunehmen [**IB**]. Der individuelle Nutzen der Mammographie überwiegt ab dem 40. Lebensjahr die sich aus der Strahlenexposition ergebenden Risiken. Das Optimum des Verhältnisses aus Nutzen und Risiko liegt zwischen dem 50. und 70. Lebensjahr [**IIB**].

5.2 Screening for Breast Cancer[20]

The U.S. Preventive Services Task Force recommends screening mammography, with or without clinical breast examination, every 1-2 years for women aged 40 and older. ***B recommendation****.*

The USPSTF found fair evidence that mammography screening every 12-33 months significantly reduces mortality from breast cancer. Evidence is strongest for women aged 50-69, the age group generally included in screening trials. For women aged 40-49, the evidence that screening mammography reduces mortality from breast cancer is weaker, and the absolute benefit of mammography is smaller, than it is for older women. Most, but not all, studies indicate a mortality benefit for women undergoing mammography at ages 40-49, but the delay in observed benefit in women younger than 50 makes it difficult to determine the incremental benefit of

beginning screening at age 40 rather than at age 50. The absolute benefit is smaller because the incidence of breast cancer is lower among women in their 40s than it is among older women. The USPSTF concluded that the evidence is also generalizable to women aged 70 and older (who face a higher absolute risk of breast cancer) if their life expectancy is not compromised by comorbid disease. The absolute probability of benefits of regular mammography increase along a continuum with age, whereas the likelihood of harms from screening (false positive results and unnecessary anxiety, biopsies, and cost) diminish from ages 40-70. The balance of benefits and potential harms, therefore, grows more favourable as women age. The precise age at which the potential benefits of mammography justify the possible harms is a subjective choice. The USPSTF did not find sufficient evidence to specify the optimal screening interval for women aged 40-49.

5.2.1 Clinical Considerations

- Women who are at increased risk for breast cancer (eg, those with a family history of breast cancer in a mother or sister, a previous breast biopsy revealing atypical hyperplasia, or first childbirth after age 30) are more likely to benefit from regular mammography than women at lower risk. The recommendation for women to begin routine screening in their 40s is strengthened by a family history of breast cancer having been diagnosed before menopause.
- In the trials that demonstrated the effectiveness of mammography in lowering breast cancer mortality, screening was performed every 12-33 months. For women aged 50 and older, there is little evidence to suggest that annual mammography is more effective than mammography done every other year. For women aged 40-49, available trials also have not reported a clear advantage of annual mammography over biennial mammography. Nevertheless, some experts recommend annual mammography based on the lower sensitivity of the test and on evidence that tumors grow more rapidly in this age group.

5.3 Screening Mammography for Women 40 to 49 Years of Age[21]

Recommendation: In women 40 to 49 years of age, clinicians should periodically perform individualized assessment of risk for breast cancer to help guide decisions about screening mammography.

A careful assessment of a woman's risk for breast cancer is important. The 5-year breast cancer risk can vary from 0.4% for a woman age 40 years with no risk factors to 6.0% for a woman age 49 years with several risk factors[22].

Recommendation: Clinicians should inform women 40 to 49 years of age about the potential benefits and harms of screening mammography.

Screening mammography for women 40 to 49 years of age is associated with both benefits and potential harms. The most important benefit of screening mammography every 1 to 2 years in women 40 to 49 years of age is a potential decrease in breast cancer mortality. A recent meta-analysis estimated the relative reduction in the breast cancer mortality rate to be 15% after 14 years of follow-up. An additional large randomized clinical trial of screening mammography in women 40 to 49 years of age found a similar decrease in the risk for death due to breast cancer, although the decrease did not reach statistical significance.[23]

Potential risks of mammography include false-positive results, diagnosis and treatment for cancer that would not have become clinically evident during the patient's lifetime, radiation exposure, false reassurance, and procedure associated pain. False-positive mammography can lead to increased anxiety and to feelings of increased susceptibility to breast cancer, but most studies found that anxiety resolved quickly after the evaluation.

Recommendation: For women 40 to 49 years of age, clinicians should base screening mammography decisions on benefits and harms of screening, as well as on a woman's preferences and breast cancer risk profile.

Because the evidence shows variation in risk for breast cancer and benefits and harms of screening mammography based on an individual woman's risk profile, a personalized screening strategy based on a discussion of the benefits and potential harms of screening and an understanding of a woman's preferences will help identify those who will most benefit from screening mammography. For many women, the potential reduction in breast cancer mortality rate associated with screening mammography will outweigh other considerations. For women who do not wish to discuss the screening decision, screening mammography every 1 to 2 years in women 40 to 49 years of age is reasonable.

5.4 American Cancer Society Guidelines for Breast Screening with MRI as an Adjunct to Mammography[24]

Mammography has been proven to detect breast cancer at an early stage and, when followed up with appropriate diagnosis and treatment, to reduce mortality from breast cancer. For women at increased risk of breast cancer, other screening technologies also may contribute to the earlier detection of breast cancer, particularly in women under the age of 40 years for whom mammography is less sensitive.

The American Cancer Society (ACS) guideline for the early detection of breast cancer, last updated in 2003, stated that women at increased risk of breast cancer might benefit from additional screening strategies beyond those offered to women at average risk, such as earlier initiation of screening, shorter screening intervals, or the addition of screening modalities (such as breast ultrasound or magnetic resonance imaging [MRI]) other than mammography and physical examination. However, the evidence available at the time was insufficient to justify recommendations for any of these screening approaches. The ACS recommended that decisions about screening options for women at significantly increased risk of breast cancer be based on shared decision making after a review of potential benefits, limitations, and harms of different screening strategies and the degree of uncertainty about each.[25]

5.5 American Cancer Society guideline [26]

***Recommendation**: yearly mammograms starting at age 40 and continuing for as long as a woman is in good health.*

5.6 American College of Obstetricians and Gynecologists Breast cancer screening guideline [27]

***Recommendation**: Begin annual mammography at age 40 years.*

5.7 Canadian Task Force on Preventive Health Care[28]

***Recommendation:** Current evidence regarding the effectiveness of screening mammography does not suggest the inclusion of the manoeuvre in, or its exclusion from, the periodic health examination of women aged 40–49 years at average risk of breast cancer (**grade C recommendation**). Upon reaching the age of 40, Canadian women should be informed of the potential benefits and risks of screening mammography and assisted in deciding at what age they wish to initiate the manoeuvre.*

5.8 Breast Cancer Screening and Diagnosis Guidelines[29]

Women at Normal Risk

For women between ages 20 and 39 years, a *clinical breast examination every 1 to 3 years is recommended, with periodic Breast Self Exam (BSE) encouraged. For women ages 40 and older, annual clinical breast examination and screening mammography are recommended, with periodic BSE encouraged.*

Although controversies persist regarding cost-effectiveness of screening in certain age categories and the diagnostic work-up required of false positives, most medical experts reaffirmed current recommendations supporting screening mammography. This recommendation that women begin annual screening at age 40 is based on a

consensus statement from the American Cancer Society. The National Cancer Institute also agreed that screening in this younger age group does decrease mortality from breast cancer. Recent studies have reported a survival benefit in younger women that is equivalent to that seen in women over age 50.[30]

Women Aged 35 Years or Older with a 5-Year Risk of Invasive Breast Carcinoma Greater Than or Equal to 1.7%

For women age 35 and older, risk assessment tools are available to identify those who are at increased risk. The National Cancer Institute has developed a computerized risk-assessment tool based on the modified Gail model that performs accurate risk projections for women based on a number of risk factors for breast cancer. The modified Gail model assesses the risk of invasive breast cancer as a function of age, menarche, age at first live birth or nulliparity, number of first-degree relatives with breast cancer, number of previous benign breast biopsies, atypical hyperplasia in a previous breast biopsy, and race. The tool calculates and prints 5-year and lifetime projected probabilities of developing invasive breast cancer and can be used to identify women who are at increased risk. The Gail model, however, may not accurately assess breast cancer risk in non-Caucasian women. Increased risk of developing breast cancer is defined as a 5-year risk of 1.7% or greater. This is the average risk of a 60-year-old woman, which is the median age of diagnosis of breast cancer in the U.S.

For women aged 35 years or older with a risk greater than or equal to 1.7%, clinical breast examinations every 6 to 12 months and annual mammography are recommended, and periodic BSE is encouraged.

6 Systematische Reviews und Meta Analysen

6.1 Screening for breast cancer with mammography[31]

Mammography uses X-ray to try to find early breast cancers before a lump can be felt. Many countries have introduced mammography screening for women aged 50 to 69. The review includes seven trials involving a total of half a million women. The review found that mammography screening for breast cancer likely reduces breast cancer mortality, but the magnitude of the effect is uncertain and screening will also result in some women getting a cancer diagnosis even though their cancer would not have led to death or sickness. Currently, it is not possible to tell which women these are, and they are therefore likely to have breasts and lumps removed and to receive radiotherapy unnecessarily. Based on all trials, the reduction in breast cancer mortality is 20%, but as the effect is lower in the highest quality trials, a more reasonable estimate is a 15% relative risk reduction. Based on the risk level of women in these trials, the absolute risk reduction was 0.05%. Screening also leads to overdiagnosis and overtreatment, with an estimated 30% increase, or an absolute risk increase of 0.5%. This means that for every 2000 women invited for screening throughout 10 years, one will have her life prolonged. In addition, 10 healthy women, who would not have been diagnosed if there had not been screening, will be diagnosed as breast cancer patients and will be treated unnecessarily. It is thus not clear whether screening does more good than harm.

6.2 EUSOMA review of mammography screening[32]

Regular mammographic examination, followed by diagnosis and treatment (as required) leads to a significant 22% reduction in breast cancer mortality. Screening women aged ≥50 years should be part of organised public health programmes with full quality control and monitoring. There is uncertainty over the effect of screening in women aged <50 years. If such women request it they should have it performed but after being informed of the uncertainty and the possible consequences. The main

research need specified in the EUSOMA report was to adequately assess the value of screening in this age group to resolve the issue.

6.3 Breast Cancer Screening: A Summary of the Evidence[33]

Effectiveness of Mammography among Women 40 to 49 Years of Age

Since 1963, 7 randomized, controlled trials have included women 40 to 49 years of age, approximately 200,000 participants. With the exception of 1 of the Canadian studies, none of the trials were planned to evaluate breast cancer screening in this age group and none had sufficient power. Two trials, the Stockholm trial and CNBSS-1, showed no benefit for this age group even with longer follow-up. The other 5 trials suggest a benefit (risk reduction, 13% to 42%), and 1 (the Gothenburg trial) observed a statistically significant risk reduction since 1996. These findings reflect results after 11 to 19 years of observation; the median period of active screening was 6 years (range, 4 to 15 years).

Meta-analyses [34,35,36,37,38,39,40,41,42,43,44,45] of the effectiveness of mammography in women 40 to 49 years of age:

Table 6. Meta-analyses of randomized trials of screening mammography among women aged 40–49

Study (reference), Year	Assessed Quality?	Included Trials	Methods	Years of Follow-up	Relative Risk (95% Confidence Interval)	Number Needed to Screen
Larsson et al,[50] 1997; Nystrom et al,[32] 1993	No	5 Swedish trials	Weighted relative risks	12.8	0.77 (0.59-1.01)	
Cox,[51] 1997 Elwood,[52] 1993	No	All 8 trials	Fixed effects	10	0.93 (0.77-1.11)	
Glasziou and Irwig,[53,54] 1997	Yes. All studies were "good." Rated Malmo and CNBSS highest and Two-County trial and Gothenburg lowest	All 8 trials	Variance-weighted	13.13	0.85 (0.71-1.01)	
Hendrick et al,[55] 1997; Smart et al,[56] 1995	No	All 8 trials*	Fixed effects	12.7	0.82 (0.71-0.95)	1,540
Kerlikowske,[57,58] 1995,1997	No	All 8 trials	Fixed effects	≈ 12	0.84 (0.71-0.99)	2,500
Berry,[30] 1998	No	All 8 trials	Random effects†	12 -15	0.82 (0.49-1.17)	
Olsen and Gotzsche,[8] 2001	Yes. Excluded 6 trials rated "flawed" or "poor"	Canadian, Malmo	Fixed effects	13	1.03 (0.77-1.38)	
Current study, 2002	Yes. Rated Edinburgh "poor" and others fair or better	7 trials, excluding Edinburgh	Random effects	≈ 14	0.85 (0.73-0.99)	1,792

* Included an additional 17,000 subjects from the Malmo II trial.

† Hierarchical Bayes model; estimates are for the "next trial" analysis.

Note: For multiple publications, data from the most recent update are recorded in the table.

7 Regionale Pilotprojekte in Österreich

In sechs der neun Bundesländer bestehen derzeit regionale Pilotprojekte oder artikulierte Bestrebungen ein solches zu installieren. Unterschiede gibt es in der regionalen Ausdehnung und damit in Zusammenhang stehend mit dem Ausmaß des Screenings, in der Untersuchungsfrequenz sowie in der Kooperation von regionalen Projektpartnern. Ein wesentlicher Unterschied besteht auch in der expliziten sozialpolitischen Komponente des Wiener Screening, gerade sozial benachteiligte Gruppen verstärkt anzusprechen. Was den organisatorischen Ablauf, die klinischen Standards und das Alter der Zielgruppen betrifft, so sind jedoch alle mehr oder weniger gleich strukturiert.[46]

Tabelle 1.3-1: Übersichtstabelle regionale Pilotprojekte in Österreich in der Planungsphase

	Wien (Bezirke 15, 16, 17)	Vorarlberg (Bludenz)	Tirol (Stand Dezember 2005)	Salzburg
Zielpopulation	50 – 69 Jahre	50 – 69 Jahre	40-69 Jahre	50 – 69 Jahre
Größe der Zielpopulation	24.000 Frauen	6.500 Frauen	40-49 Jahre: 54.000 Frauen 50-59 Jahre: 40.500 Frauen 60-69 Jahre: 35.500 Frauen	50-59 Jahre: 32.200 Frauen 60-69 Jahre: 26.200 Frauen
Finanzierungs-struktur	Stadt Wien; WGKK; Bundesgesundheits-kommission; Wr. Kran-kenversicherungs-träger; Wr. Krankenfür-sorgeanstalt	BGA; Land Vorarlberg; Vbg. Krebshilfe	TGKK; TKF	BGA; keine weiteren Angaben
Diagnose-verfahren	Mammographie mit Doppelbefundung, bei Unklarheit Drittbefund bzw. wenn nötig weitere nicht invasive Abklärung; im Falle eines suspekten Be-fundes Biopsie im Hanusch Spital	Mammographie mit Doppelbefundung, gegebenenfalls zu-sätzliche Aufnahmen oder US, MR, Stanz-biopsien und interdisziplinäre Konferenzen; Bei verdächtigen Befunden geht ein Befundbericht an den/die jeweilige/n Frauenarzt/ärztin	Mammographie nötigenfalls Sono-graphie; keine obligatorische Zweitbefundung. Bei BI-RADS 3-5 Ab-klärungen bzw. bildgesteuerte Nadelbiopsien im Assessment Center	Mammographie mit Doppelbefundung, bei Unklarheit weitere nicht invasive Abklärung bzw. interdisziplinä-re Konferenz; bei suspektem Befund Biopsie im Brust-zentrum

Die Tabelle wurde auszugsweise dem Endbericht Mammographiescreening des LBI HTA „Evidenzbasierte Evaluierungshilfe für organisierte Programme“ entnommen.

8 Suche

In folgenden Quellen wurde gesucht: PubMed, Cochrane Library, AWMF, AHRQ
Die Suche erfolgt mit folgenden Suchworten: mammography, mass screening, mammographic screening, younger women.

Es wird nach Sekundärliteratur gesucht, wie Metaanalysen, Reviews, Guidelines, sowie relevante Referenzen.

Search	Most Recent Queries	Time	Result
#37	Search **#10 AND younger women** Limits: **published in the last 10 years**	06:30:21	119
#29	Search **(#9) AND (#7)** Limits: **published in the last 10 years, Meta-Analysis, Practice Guideline**	06:01:58	34
#11	Search **(#9) AND (#7)** Limits: **Meta-Analysis**	05:33:33	28
#10	Search **(#9) AND (#7)**	03:58:13	4711
#9	Search **"Mammography"[Mesh]**	03:57:47	17958
#7	Search **"Mass Screening"[Mesh]**	03:56:29	84642

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