Complete Summary

GUIDELINE TITLE

(1) ACS guidelines for breast cancer screening: update 2003. (2) American Cancer Society Guideline for breast screening with MRI as an adjunct to mammography (2007).

BIBLIOGRAPHIC SOURCE(S)

Saslow D, Boetes C, Burke W, Harms S, Leach MO, Lehman CD, Morris E, Pisano E, Schnall M, Sener S, Smith RA, Warner E, Yaffe M, Andrews KS, Russell CA, American Cancer Society Breast Cancer Advisory Group. American Cancer Society guidelines for breast screening with MRI as an adjunct to mammography. CA Cancer J Clin 2007 Mar-Apr;57(2):75-89. [79 references] PubMed

Smith RA, Saslow D, Sawyer KA, Burke W, Costanza ME, Evans WP 3rd, Foster RS Jr, Hendrick E, Eyre HJ, Sener S. American Cancer Society guidelines for breast cancer screening: update 2003. CA Cancer J Clin 2003 May-Jun;53(3):141-69. [184 references] PubMed

GUIDELINE STATUS

This is the current release of the guideline.

This guideline plus addendum updates a previous version: Leitch AM, Dodd GD, Costanza M, Linver M, Pressman P, McGinnis L, Smith RA. American Cancer Society guidelines for the early detection of breast cancer: update 1997. CA Cancer J Clin 1997 May-Jun;47(3):150-3.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Breast cancer

GUIDELINE CATEGORY

Diagnosis
Screening

CLINICAL SPECIALTY

Family Practice
Internal Medicine
Obstetrics and Gynecology
Oncology
Preventive Medicine
Surgery

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Health Care Providers
Health Plans
Hospitals
Managed Care Organizations
Nurses
Patients
Physician Assistants
Physicians
Public Health Departments

GUIDELINE OBJECTIVE(S)

2003 Guideline

To review the existing American Cancer Society (ACS) guidelines for the early detection of breast cancer based on evidence that has accumulated since the last revision in 1997

2007 Addendum

To review the existing early detection guideline for women at increased risk and for magnetic resonance imaging (MRI) screening based on evidence that has accumulated since the last revision in 2002 to 2003

TARGET POPULATION

2003 Guideline

Women aged 40 years or older

2007 Addendum

Women at increased risk of breast cancer based on family history, results of genetic testing, or clinical factors

INTERVENTIONS AND PRACTICES CONSIDERED

1. Annual mammography beginning at age 40
2. Clinical breast examination (CBE)
3. Breast self-examination (BSE)
4. Screening of older women with comorbid conditions
5. Screening of women at high risk using magnetic resonance imaging (MRI)

MAJOR OUTCOMES CONSIDERED

- Morbidity and mortality due to breast cancer in women aged 40 years and older
- Clinical performance characteristics of screening tests (sensitivity, specificity)

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases
Searches of Unpublished Data

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

2003 Guideline

During the current guideline review, literature related to breast cancer screening published between January 1997 and September 2002, including new screening tests, was identified using MEDLINE (National Library of Medicine), bibliographies of identified articles, personal files of panel members, and unpublished manuscripts.

2007 Addendum

Literature related to breast magnetic resonance imaging (MRI) screening published between September 2002 and July 2006 was identified using MEDLINE (National Library of Medicine), bibliographies of identified articles, and unpublished manuscripts.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus
Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Strength of evidence rating scheme for rating potential new imaging technologies for breast cancer detection

A. Strong clinical evidence for effectiveness in screening; technology is routinely used for screening
B. Some clinical evidence for effectiveness or equivalence to screen-film mammography for screening
C. Preclinical data suggest possible promise, but clinical data are sparse or nonexistent; more study is needed
D. Clinical evidence indicates that modality is ineffective as a screening tool
E. Technology is not at the stage that data are available

METHODS USED TO ANALYZE THE EVIDENCE

Meta-Analysis of Randomized Controlled Trials
Review
Review of Published Meta-Analyses

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

In 2002, the American Cancer Society (ACS) convened an expert panel to review the existing early detection guidelines based on evidence that has accumulated since the last revision. The panel was divided into work groups to review recent evidence and develop recommendations regarding: (1) mammography; (2) physical examination; (3) screening of older women and women with comorbid conditions; (4) screening high-risk women; and (5) screening with new technologies.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

2003 Guideline

Expert panel members reviewed articles using specified criteria and discussed them during a series of conference calls. Each group developed recommendations, rationale, and evidence summaries, and reviewed the summaries developed by the other work groups prior to a September 2002 workshop. When evidence was insufficient or lacking the final recommendations incorporated the expert opinions of the panel members. During the conference calls and workshop, consensus was reached on the key issues within the guideline recommendations. Following the workshop, American Cancer Society (ACS) Breast Cancer Advisory Group members deliberated over the guideline modifications.

2007 Addendum

The ACS convened an expert panel to review the existing early detection guideline for women at increased risk and for magnetic resonance imaging (MRI) screening based on evidence that has accumulated since the last revision in 2002 to 2003. Expert panel members reviewed and discussed data during a series of conference calls and a working meeting in August, 2006. When evidence was insufficient or lacking, the final recommendations incorporated the expert opinions of the panel members.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

2003 Guideline

A formal cost analysis was not performed and published cost analyses were not reviewed.

2007 Addendum

Only limited data are available on the cost-effectiveness of breast magnetic resonance imaging (MRI) screening. One recent study modeled cost-effectiveness for adding MRI to mammography screening for women of different age groups who carry a BRCA1 or BRCA2 mutation. The authors concluded that the cost per quality-adjusted life year (QALY) saved for annual MRI plus film mammography, compared with annual film mammography alone, varied by age and was more favorable in carriers of a mutation in BRCA1 than BRCA2 because BRCA1 mutations confer higher cancer risk, and higher risk of more aggressive cancers, than BRCA2 mutations. Estimated cost per QALY for women aged 35 to 54 years was $55,420 for women with a BRCA1 mutation and $130,695 for women with a BRCA2 mutation. Cost-effectiveness was increased when the sensitivity of mammography was lower, such as in women with very dense breasts on mammography: estimated costs per QALY were $41,183 for women with a BRCA1 mutation and $98,454 for women with a BRCA2 mutation with dense breast tissue. The most important determinants of cost-effectiveness were breast cancer risk, mammography sensitivity, MRI cost, and quality of life gains from MRI.

An evaluation of the cost-effectiveness of the United Kingdom (UK) study has determined that the incremental cost per cancer detected for women at approximately 50% risk of carrying a BRCA gene mutation was $50,911 for MRI combined with mammography over mammography alone. For known mutation carriers, the incremental cost per cancer detected decreased to $27,544 for MRI combined with mammography, compared with mammography alone. Analysis supporting the introduction of targeted MRI screening in the UK for high-risk women identified the incremental cost of combined screening per QALY in 40- to 49-year-old women as $14,005 for a BRCA1 carrier with a 31% 10-year risk—the group in which MRI screening is seen to be most effective; $53,320 for women with a 12% 10-year risk; and $96,379 for women with a 6% 10-year risk. For the

30- to 39-year-old age range, the incremental costs per QALY are $24,275 for a BRCA1 carrier with an 11% 10-year risk and $70,054 for a woman with a 5% 10-year risk. Based on these estimates, which are based on costs within the UK National Health Service, MRI screening will be offered to women at familial risk aged 30 to 39 years at a 10-year risk greater than 8%, and to women at familial risk aged 40 to 49 years at a 10-year risk greater than 20%, or greater than 12% when mammography has shown a dense breast pattern.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

2003 Guideline

Each work group member and workshop attendee was given the opportunity to review the draft of this manuscript. Numerous professional, advocacy, and governmental organizations also were invited to review the draft guidelines.

2007 Addendum

The American Cancer Society (ACS) Breast Cancer Advisory Group members and the National Board of Directors discussed and voted to approve the recommendations.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Note from the National Guideline Clearinghouse (NGC) and the American Cancer Society (ACS)*: New evidence on breast magnetic resonance imaging (MRI) screening has become available since the ACS last issued guidelines for the early detection of breast cancer in 2003. A guideline panel has reviewed this evidence and developed new recommendations for women at different defined levels of risk, which can be found below under the heading "2007 Addendum."*

2003 Guideline

Summary Recommendation

The American Cancer Society recommendations for breast cancer screening are presented below in abbreviated form. Readers should refer to the original full text guideline document to see the complete recommendations, along with the rationale and summary of the evidence.

Women at Average Risk

Begin mammography at age 40.

For women in their 20s and 30s, it is recommended that clinical breast examination (CBE) be part of a periodic health examination, preferably at least every three years. Asymptomatic women aged 40 and over should continue to receive a clinical breast examination as part of a periodic health examination, preferably annually.

Beginning in their 20s, women should be told about the benefits and limitations of breast self-examination (BSE). The importance of prompt reporting of any new breast symptoms to a health professional should be emphasized. Women who choose to do BSE should receive instruction and have their technique reviewed on the occasion of a periodic health examination. It is acceptable for women to choose not to do BSE or to do BSE irregularly.

Women should have an opportunity to become informed about the benefits, limitations, and potential harms associated with regular screening.

Older Women

Screening decisions in older women should be individualized by considering the potential benefits and risks of mammography in the context of current health status and estimated life expectancy. As long as a woman is in reasonably good health and would be a candidate for treatment, she should continue to be screened with mammography.

Women at Increased Risk

Women at increased risk of breast cancer might benefit from additional screening strategies beyond those offered to women of average risk, such as earlier initiation of screening, shorter screening intervals, or the addition of screening modalities other than mammography and physical examination, such as ultrasound or magnetic resonance imaging. However, the evidence currently available is insufficient to justify recommendations for any of these screening approaches.

2007 Addendum

Recommendations for Breast MRI Screening as an Adjunct to Mammography
Recommend Annual MRI Screening (Based on Evidence)* • *BRCA* mutation • First-degree relative of *BRCA* carrier, but untested • Lifetime risk ~20-25% or greater, as defined by BRCAPRO or other models that are largely dependent on family history
*Recommend Annual MRI Screening (Based on Expert Consensus Opinion**)* • Radiation to chest between age 10 and 30 years • Li-Fraumeni syndrome and first-degree relatives • Cowden and Bannayan-Riley-Ruvalcaba syndromes and first-degree relatives

Recommendations for Breast MRI Screening as an Adjunct to Mammography
*Insufficient Evidence to Recommend for or Against MRI Screening****   • Lifetime risk 15-20%, as defined by BRCAPRO or other models that are largely dependent on family history • Lobular carcinoma in situ (LCIS) or atypical lobular hyperplasia (ALH) • Atypical ductal hyperplasia (ADH) • Heterogeneously or extremely dense breast on mammography • Women with a personal history of breast cancer, including ductal carcinoma in situ (DCIS)
Recommend Against MRI Screening (Based on Expert Consensus Opinion)   • Women at <15% lifetime risk

*Evidence from nonrandomized screening trials and observational studies

**Based on evidence of lifetime risk for breast cancer

***Payment should not be a barrier. Screening decisions should be made on a case-by-case basis, as there may be particular factors to support MRI. More data on these groups is expected to be published soon.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

2003 Guideline

The primary evidence supporting the recommendation for periodic screening for breast cancer with mammography derives from seven randomized controlled trials (RCTs).

2007 Addendum

Recommendations for breast magnetic resonance imaging (MRI) screening as an adjunct to mammography are based on nonrandomized screening trials, observational studies, and expert consensus opinion based on lifetime risk for breast cancer.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

2003 Guideline

- Decreased breast cancer morbidity and mortality due to early detection.
- A meta-analysis of seven randomized controlled trials (RCTs) showed a 24% mortality reduction associated with an invitation to screening.
- Evidence from service screening (i.e., screening in the community setting) demonstrates that modern, organized screening programs with high rates of attendance can achieve breast cancer mortality reductions equal to or greater than those observed in RCTs. Evaluation of service screening is an important new development because it measures the value of modern mammography in the community and it measures the benefit of mammography screening to women who actually get screened.

2007 Addendum

- Several studies have demonstrated the ability of magnetic resonance imaging (MRI) screening to detect cancer with early-stage tumors that are associated with better outcomes. While survival or mortality data are not available, MRI has higher sensitivity and finds smaller tumors, compared with mammography, and the types of cancers found with MRI are the types that contribute to reduced mortality. It is reasonable to extrapolate that detection of noninvasive (DCIS) and small invasive cancers will lead to mortality benefit.

POTENTIAL HARMS

2003 Guideline

Limitations and harms of breast cancer screening include false negatives, false positives, over-treatment, and radiation.

False Negatives/False Positives

False negatives can be attributed to inherent technological limitations of mammography, quality assurance failures, and human error; false positives also can be attributed to these factors as well as to heightened medical-legal concerns over the consequence of missed cancers. Further, in some instances, a patient´s desire for definitive findings in the presence of a low-suspicion lesion also contributes to false positives. The consequences of these errors include missed cancers, with potentially worse prognosis, as well as anxiety and harms associated with interventions for benign or nonobligate precursor lesions.

The evidence suggests that some women experience anxiety related to screening, and a greater percentage experience anxiety related to false-positive results, but for most women psychological distress is short-lived and does not have lasting consequences on either stress levels or likelihood of subsequent screening.

Overtreatment

Since some ductal carcinoma in situ (DCIS) is not progressive, diagnostic evaluation and treatment of DCIS lesions that would not progress to invasive

disease is a harm associated with screening, although the extent of harm is uncertain, as is how it might be avoided. Overtreatment of a progressive DCIS lesion that could be cured with less aggressive treatment also represents a harm, although it should not be attributed to screening.

Radiation

Several studies have provided evidence for an increased risk of breast cancer after therapeutic radiation exposure or multiple exposures to diagnostic radiation. Overall risk from single and cumulative diagnostic exposures is small, but risk increases with the amount of exposure and with younger age at exposure. Thus, it is theoretically possible that cumulative radiation exposure associated with screening mammography increases the risk of breast cancer. It has also been hypothesized that some women at increased inherited risk for breast cancer may also have increased radiation sensitivity, which could increase their risk for radiation-induced breast cancer.

Women whose regular screening begins at an early age (e.g., age 30) may have a higher potential for radiation-induced cancers.

2007 Addendum

Although the efficacy of breast magnetic resonance imaging (MRI) has been demonstrated, it does not achieve perfect sensitivity or specificity in women undergoing screening, and as such, the issue of adverse consequences for women who do, but especially those who do not, have breast cancer is important to address. As with mammography and other screening tests, false negatives after MRI screening can be attributed to inherent technological limitations of MRI, patient characteristics, quality assurance failures, and human error; false positives also can be attributed to these factors, as well as heightened medical-legal concerns over the consequence of missed cancers. A patient's desire for definitive findings in the presence of a low-suspicion lesion may also contribute to a higher rate of benign biopsies. The consequences of all these factors include missed cancers, with potentially worse prognosis, as well as anxiety and potential harms associated with interventions for benign lesions.

The specificity of MRI is significantly lower than that of mammography in all studies to date, resulting in more recalls and biopsies. Call-back rates for additional imaging ranged from 8% to 17% in the MRI screening studies, and biopsy rates ranged from 3% to 15%. However, several researchers have reported that recall rates decreased in subsequent rounds of screening: prevalence screens had the highest false-positive rates, which subsequently dropped to less than 10%. Most call backs can be resolved without biopsy. The call-back and biopsy rates of MRI are higher than for mammography in high-risk populations; while the increased sensitivity of MRI leads to a higher call-back rate, it also leads to a higher number of cancers detected. The proportion of biopsies that are cancerous (positive predictive value) is 20% to 40%. Since false-positive results appear to be common, more data are needed on factors associated with lower specificity rates.

See the original addendum document for more information about technological limitations and potential harms associated with MRI screening, including psychological concerns, costs, and limited access.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

2003 Guideline

- Because the recommendations for women at increased risk for breast cancer were based on limited observational data, the decision regarding when to initiate screening should be based on shared decision-making, taking into consideration individual circumstances and preferences.
- The evidence supporting the value of clinical breast examination (CBE) and breast self-examination (BSE) as methods of reducing breast cancer mortality is limited and mostly inferential, although there is no definitive prospective randomized controlled trial (RCT) evidence from which to draw conclusions about either exam. Thus, current recommendations rely on existing evidence, but also on expert opinion based on a recognition that population-based studies continue to show a relatively large proportion of self-detected cancers.
- At this time, it is unclear what CBE contributes to detection of breast cancer, although it is likely that in presumably asymptomatic women the contribution is small. At this time, in women screened with mammography, the cancer detection rate for CBE appears to be low, and the evidence for breast cancer mortality reduction associated with CBE is weak and indirect. However, apart from some contributions to breast cancer detection, CBE may serve an additional, separate function: it can provide the occasion to raise awareness about breast cancer and to provide accurate information on the variety of breast cancer-related topics, including information about breast symptoms, genetics, risk factors, and newer cancer detection technologies.
- While annual screening likely is more beneficial for all women, the importance of annual screening clearly is greater in premenopausal (<55) compared with postmenopausal women. However, given the prognostic value of smaller tumors, and the finding that annual screening results in more favorable tumor characteristics in both pre- and postmenopausal women, annual screening may offer advantages over biennial screening well into the postmenopausal period.

2007 Addendum

- There is a special responsibility to alert patients to magnetic resonance imaging (MRI) technology, with its potential strengths and harms, and to be encouraging, while allowing for shared decision making. The interplay between risks, benefits, limitations, and harms is complicated by the fact that individual women likely will weigh these differently depending on their age, values, perception of risk, and their understanding of the issues. Steps should be taken to reduce anxiety associated with screening and the waiting time to diagnosis, and conscientious efforts should be made to inform women about the likelihood of both false-negative and false-positive findings. How information is conveyed to the patient greatly influences the patient's

response: it is important that providers not convey an undue sense of anxiety about a positive MRI finding. While the high rate of biopsies and further investigations is acceptable in women with a high risk of breast cancer, the number of such investigations in women at lower risk will be much higher than would be appropriate, leading to the need to counsel women in lower risk categories that MRI screening is not advisable and that the harms are believed to outweigh the benefits. Such advice needs to be based on considerations of family history, genetic mutation status, other risk factors, age, and mammographic breast density.

- Assiduous attempts were made to base recommendations on solid evidence. However, outcome data from screening MRI studies are not sufficient to form a solid basis for many of the recommendations. It was therefore necessary to rely on available inferential evidence and expert opinion to provide the guidance needed for patients and their health care providers. See the original addendum document for a discussion of the limitations of evidence from MRI studies.
- Recommendations are conditional on an acceptable level of quality of MRI screening, which should be performed by experienced providers in facilities that provide MRI-guided biopsy for the follow up of any suspicious lesions.
- For the majority of women at high risk, it is critical that MRI screening be provided in addition to, not instead of, mammography, as the sensitivity and cancer yield of MRI and mammography combined is greater than for MRI alone. However, where there is a concern about raised radiation sensitivity, it may be advisable to employ MRI alone despite the overall lower sensitivity.
- Women should be informed about the benefits, limitations, and potential harms of MRI screening, including the likelihood of false-positive findings.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Patient Resources
Staff Training/Competency Material

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Saslow D, Boetes C, Burke W, Harms S, Leach MO, Lehman CD, Morris E, Pisano E, Schnall M, Sener S, Smith RA, Warner E, Yaffe M, Andrews KS, Russell CA, American Cancer Society Breast Cancer Advisory Group. American Cancer Society guidelines for breast screening with MRI as an adjunct to mammography. CA Cancer J Clin 2007 Mar-Apr;57(2):75-89. [79 references] PubMed

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ADAPTATION

Not applicable: Guideline was not adapted from another source.

DATE RELEASED

1997 (revised 2003; addendum released 2007 Mar)

GUIDELINE DEVELOPER(S)

American Cancer Society - Disease Specific Society

SOURCE(S) OF FUNDING

American Cancer Society

GUIDELINE COMMITTEE

2003 Guideline

American Cancer Society Breast Cancer Screening Guideline Panel

High-Risk Work Group
Mammography Work Group
New Technologies Work Group
Physical Examination Work Group
Screening Older Women Work Group

2007 Addendum

American Cancer Society Breast Screening MRI Workgroup and American Cancer Society Breast Cancer Advisory Group

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

2003 Guideline

Primary Authors: Robert A. Smith, PhD; Debbie Saslow, PhD; Kimberly Andrews Sawyer; Wylie Burke, MD, PhD; Mary E. Costanza, MD; W. Phil Evans III, MD; Roger S. Foster, Jr., MD; Edward Hendrick, PhD; Harmon J. Eyre, MD; Steven Sener, MD

High-Risk Work Group: Wylie Burke, MD, PhD, (Chair); Elizabeth Claus, MD, PhD; Mary Daly, MD, PhD; Paula Gordon, MD; Constance D. Lehman, MD, PhD; Olufunmilayo I. Olopade, MD; Wendy S. Rubinstein, MD, PhD; Debbie Saslow, PhD; Robert A. Smith, PhD

Mammography Work Group: W. Phil Evans III, MD, (Chair); Linda Warren Burhenne, MD; Carl J. D'Orsi, MD; Stephen A. Feig, MD; Amy S. Langer, MBA; A. Marilyn Leitch, MD; Stephen Sener, MD; Steven H. Woolf, MD, MPH; Bonnie C. Yankaskas, PhD; Debbie Saslow, PhD; Robert A. Smith, PhD

New Technologies Work Group: Edward Hendrick, PhD, (Chair); Maryellen Giger, PhD; Paula Gordon, MD; Valerie P. Jackson, MD; Constance D. Lehman, MD, PhD; Jeanne Petrek, MD; Edward Sickles, MD; Martin J. Yaffe, PhD; Debbie Saslow, PhD; Robert A. Smith, PhD

Physical Examination Work Group: Roger S. Foster Jr., MD, (Chair); Cornelia Baines, MD; Lynn Erdman, RN, MS; Margaret Rinehart-Ayres, PT, PhD; Ruby Senie, PhD; David J. Winchester, MD; William C. Wood, MD; Debbie Saslow, PhD; Robert A. Smith

Screening Older Women Work Group: Mary E. Costanza, MD, (Chair); Lodovico Balducci, MD; Cheryl Kidd, MPH; Jeanne Mandelblatt, MD, MPH; Barbara Monsees, MD; Peter Pressman, MD; William A. Satariano, PhD, MPH; Louise C. Walter, MD; Debbie Saslow, PhD; Robert A. Smith, PhD

Breast Cancer Advisory Group: Stephen Sener, MD, (Chair); Barbara Andreozzi, Chair; Lynn Erdman, RN, MS; W. Phil Evans III, MD; Herschel W. Lawson, MD; Jeanne Petrek, MD; Margaret Rinehart-Ayres, PT, PhD; Christy A. Russell, MD; Carolyn D. Runowicz, MD; William C. Wood, MD; Debbie Saslow, PhD

2007 Addendum

Authors: Debbie Saslow, PhD; Carla Boetes, MD, PhD; Wylie Burke, MD, PhD; Steven Harms, MD; Martin O. Leach, PhD; Constance D. Lehman, MD, PhD; Elizabeth Morris, MD; Etta Pisano, MD; Mitchell Schnall, MD, PhD; Stephen Sener, MD; Robert A. Smith, PhD; Ellen Warner, MD; Martin Yaffe, PhD; Kimberly S. Andrews; Christy A. Russell, MD

ACS Breast Cancer Advisory Group Members: Christy A. Russell, MD (Chair), Associate Professor of Medicine, Keck School of Medicine, University of Southern California, and Co-Director of USC/Norris Breast Center, Los Angeles, CA; Barbara Andreozzi, Prevention Chair, Montana Comprehensive Cancer Control Coalition;

and Community Development Specialist, Montana State University Extension Service, Anaconda, MT; Gena R. Carter, MD, Radiologist, InMed Diagnostic Women's Center, Norwell, MA; Lynn Erdman, RN, MS, Senior Vice President, North Carolina and South Carolina, American Cancer Society, South Atlantic Division, Charlotte, NC; W. P. Evans, III, MD, Professor of Radiology; and Director of the University of Texas Southwestern Center for Breast Care, Dallas, TX; Herschel W. Lawson, MD, Senior Medical Advisor, Division of Cancer Prevention and Control, Centers for Disease Control and Prevention, Atlanta, GA; Maggie Rinehart-Ayers, PhD, PT, Associate Professor and Director of Clinical Education, Thomas Jefferson University, Jefferson College of Health Professions, Philadelphia, PA; Carolyn D. Runowicz, MD, Professor of Obstetrics and Gynecology; NEU Chair in Experimental Oncology; and Director of the Neag Comprehensive Cancer Center, University of Connecticut Health Center, Farmington, CT; Debbie Saslow, PhD, Director, Breast and Gynecologic Cancer, Cancer Control Science Department, American Cancer Society, Atlanta, GA; Stephen Sener, MD, Vice Chairman, Department of Surgery, Evanston Northwestern Health Care, Evanston, IL; and Professor of Surgery, Northwestern University Feinberg School of Medicine, Chicago, IL; Robert A. Smith, PhD, Director, Cancer Screening, Cancer Control Science Department, American Cancer Society, Atlanta, GA; William C. Wood, MD, Professor; and Chairman, Department of Surgery, Emory University School of Medicine, Atlanta, GA

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

2003 Guideline

Dr. Runowicz receives speaking fees and research support from Cytyc Corporation (First Cyte Ductal Lavage). Dr. Rubinstein is on the speaker´s bureau for Myriad Genetic Laboratories, Inc. Dr. D´Orsi is a medical consultant to GE Medical Systems and R2 Technology, Inc. Dr. Feig is on the medical advisory board of R2 Technology, Inc., a company that sells a computer-aided detection device for mammography; he does not receive any financial remuneration or grant support from the company. Dr. Giger is a shareholder in R2 Technology, Inc.; she also has received unrestricted research support from the company in the past.

2007 Addendum

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

This guideline plus addendum updates a previous version: Leitch AM, Dodd GD, Costanza M, Linver M, Pressman P, McGinnis L, Smith RA. American Cancer Society guidelines for the early detection of breast cancer: update 1997. CA Cancer J Clin 1997 May-Jun;47(3):150-3.

GUIDELINE AVAILABILITY

Electronic copies of the 2003 guideline: Available from CA: A Cancer Journal for Clinicians Web site.

Electronic copies of the 2007 addendum: Available from the CA: A Cancer Journal for Clinicians Web site.

Print copies: Available from the American Cancer Society, 250 Williams St., Suite 600, Atlanta, GA 30303; Web site: www.cancer.org.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Online supplemental material to the 2007 addendum. Electronic copies: Available from the CA: A Cancer Journal for Clinicians Web site.
- American Cancer Society Guidelines for Breast Screening with MRI as an Adjunct to Mammography. CME course available from the American Cancer Society Web site.

PATIENT RESOURCES

The following are available:

- American Cancer Society guidelines for the early detection of cancer, breast cancer: early detection, breast cancer early detection guidelines: frequently asked questions. Available from the American Cancer Society (ACS) Web site.

Also available by calling 1-800-ACS-2345.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

This summary was completed by ECRI on March 12, 1999. The information was verified by the guideline developer as of February 28, 2000. This summary was updated by ECRI on July 21, 2003. The information was verified by the guideline developer on August 13, 2003. This NGC summary was updated by ECRI Institute on February 4, 2008. The updated information was verified by the guideline developer on February 29, 2008.

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Date Modified: 11/3/2008