



## Complete Summary

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### GUIDELINE TITLE

American Society of Clinical Oncology 2006 update of the breast cancer follow-up and management guidelines in the adjuvant setting.

### BIBLIOGRAPHIC SOURCE(S)

Khatcheressian JL, Wolff AC, Smith TJ, Grunfeld E, Muss HB, Vogel VG, Halberg F, Somerfield MR, Davidson NE, American Society of Clinical Oncology. American Society of Clinical Oncology 2006 update of the breast cancer follow-up and management guidelines in the adjuvant setting. J Clin Oncol 2006 Nov 1;24(31):5091-7. [30 references] [PubMed](#)

### GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates previous versions: American Society of Clinical Oncology. American Society of Clinical Oncology 1998 update of recommended breast cancer surveillance guidelines. J Clin Oncol 1999 Mar;17(3):1080-2.

American Society of Clinical Oncology. Recommended breast cancer surveillance guidelines. J Clin Oncol 1997 May;15(5):2149-56.

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## SCOPE

### DISEASE/CONDITION(S)

Breast cancer

### GUIDELINE CATEGORY

Counseling  
Evaluation  
Management  
Risk Assessment

### **CLINICAL SPECIALTY**

Family Practice  
Internal Medicine  
Medical Genetics  
Oncology  
Radiation Oncology

### **INTENDED USERS**

Patients  
Physicians

### **GUIDELINE OBJECTIVE(S)**

To update the 1999 American Society of Clinical Oncology (ASCO) guideline on breast cancer follow-up and management in the adjuvant setting

### **TARGET POPULATION**

Women with breast cancer

### **INTERVENTIONS AND PRACTICES CONSIDERED**

1. Clinical history
2. Physical examination
3. Patient education on symptoms of recurrence
4. Referral for genetic counseling
5. Breast self-examination (BSE)
6. Mammography
7. Coordination of care
8. Pelvic examination

**Note:** The following interventions were considered but not recommended for routine breast cancer surveillance:

- Complete blood count (CBC) testing
- Liver function tests
- Chest x-rays
- Bone scans
- Liver ultrasound
- Computed tomography
- [<sup>18</sup>F]fluorodeoxyglucose-positron emissions tomography (FDG-PET) scanning
- Breast magnetic resonance imaging (MRI)
- Cancer antigen (CA) 15-3 or CA 27.29 testing
- Carcinoembryonic antigen testing

## **MAJOR OUTCOMES CONSIDERED**

- Overall survival
- Disease-free survival
- Quality of life
- Toxicity reduction
- Cost effectiveness

## **METHODOLOGY**

### **METHODS USED TO COLLECT/SELECT EVIDENCE**

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

### **DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE**

For the 2006 update, the Expert Panel completed the review and analysis of data published since 1998. Computerized literature searches of MEDLINE and the Cochrane Collaboration Library were performed. The searches of the English-language literature from 1999 to March 2006 combined the terms "breast neoplasms" with the Medical Subject Heading [MeSH] term "follow-up studies" and the text words "surveillance" and "follow-up." The set of articles yielded from this initial search was supplemented by articles identified from searches on each of the tests or procedures addressed in the original guideline (e.g., history and physical examination, carcinoembryonic antigen) in combination with "surveillance," "follow-up studies," and "follow-up." The searches were limited to human-only studies and to specific study design or publication type, such as randomized clinical trial, meta-analysis, practice guideline, systematic overview, or systematic review. The literature review centered on randomized clinical trials and meta-analyses of data from randomized clinical trials.

### **NUMBER OF SOURCE DOCUMENTS**

Not stated

### **METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE**

Expert Consensus

### **RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE**

Not applicable

### **METHODS USED TO ANALYZE THE EVIDENCE**

Review of Published Meta-Analyses  
Systematic Review

## **DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE**

The Expert Panel did not complete an independent meta-analysis of the data from available randomized clinical trials given the availability of a high-quality and recent meta-analysis and a high-quality systematic literature review identified through the literature search.

## **METHODS USED TO FORMULATE THE RECOMMENDATIONS**

Expert Consensus

## **DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS**

The American Society of Clinical Oncology (ASCO) convened an Expert Panel to review and update evidence-based strategies for breast cancer follow-up and management in asymptomatic patients following primary, curative therapy. These guidelines were originally published in 1997 and previously updated in 1998. The ASCO Panel was guided by a list of clinical outcomes published by ASCO in 1996 (see "Major Outcomes Considered" field) and recommended tests if they demonstrated a positive impact on these important clinical outcomes.

## **RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS**

Not applicable

## **COST ANALYSIS**

Historically, breast cancer follow-up has used a conservative approach based on clinical examination and mammography, but variations in practice patterns exist and have significant cost implications. One set of researchers at Centre Regional Leon Berard studied the impact of clinical practice guidelines on follow-up of patients with localized breast cancer. Follow-up that was not guideline compliant cost 2.2 to 3.6 times more than guideline-compliant follow-up as a result of nonmammographic examinations performed in the absence of any warning signs or symptoms of recurrence. After the introduction of surveillance guidelines in 1994, there was a one-third decrease in expenditures per patient, with no change in health outcomes expected. Although guideline compliance saves limited health care resources, patients also understand the limitations of diagnostic tests and accept limited testing from their physicians when recommended.

## **METHOD OF GUIDELINE VALIDATION**

Peer Review

## **DESCRIPTION OF METHOD OF GUIDELINE VALIDATION**

Not stated

## RECOMMENDATIONS

### MAJOR RECOMMENDATIONS

#### **Recommended Breast Cancer Surveillance**

##### **History, Physical Examination, and Patient Education Regarding Symptoms of Recurrence**

*2006 recommendation.* All women should have a careful history and physical examination every 3 to 6 months for the first 3 years after primary therapy, then every 6 to 12 months for the next 2 years, and then annually. Physicians should counsel patients about the symptoms of recurrence including new lumps, bone pain, chest pain, dyspnea, abdominal pain, or persistent headaches. Helpful Web sites for patient education include [www.plwc.org](http://www.plwc.org) and [www.cancer.org](http://www.cancer.org).

Women at high risk for familial breast cancer syndromes should be referred for genetic counseling in accordance with clinical guidelines recommended by the U.S. Preventive Services Task Force (USPSTF) (see the National Guideline Clearinghouse [NGC] summary of the USPSTF guideline [Genetic risk assessment and BRCA mutation testing for breast and ovarian cancer susceptibility: recommendation statement](#)). Criteria to recommend referral include the following: Ashkenazi Jewish heritage; history of ovarian cancer at any age in the patient or any first- or second-degree relatives; any first-degree relative with a history of breast cancer diagnosed before the age of 50 years; two or more first- or second-degree relatives diagnosed with breast cancer at any age; patient or relative with diagnosis of bilateral breast cancer; and history of breast cancer in a male relative.

##### **Breast Self-Examination**

*2006 recommendation.* All women should be counseled to perform monthly breast self-examination (BSE).

##### **Mammography**

*2006 recommendation.* Women treated with breast-conserving therapy should have their first post-treatment mammogram no earlier than 6 months after definitive radiation therapy. Subsequent mammograms should be obtained every 6 to 12 months for surveillance of abnormalities. Mammography should be performed yearly if stability of mammographic findings is achieved after completion of locoregional therapy.

##### **Coordination of Care**

*2006 recommendation.* The risk of breast cancer recurrence continues through 15 years after primary treatment and beyond. Continuity of care for breast cancer patients is recommended and should be performed by a physician experienced in the surveillance of cancer patients and in breast examination, including the examination of irradiated breasts.

Follow-up by a primary care physician (PCP) seems to lead to the same health outcomes as specialist follow-up with good patient satisfaction. If a patient with early-stage breast cancer (tumor <5 cm and < four positive nodes) desires follow-up exclusively by a PCP, care may be transferred to the PCP approximately 1 year after diagnosis. If care is transferred to a PCP, both the PCP and the patient should be informed of the appropriate follow-up and management strategy. This approach will necessitate referral for oncology assessment if a patient is receiving adjuvant endocrine therapy.

### **Pelvic Examination**

*2006 recommendation.* Regular gynecologic follow-up is recommended for all women. Patients who receive tamoxifen therapy are at increased risk for developing endometrial cancer and should be advised to report any vaginal bleeding to their physicians. Longer follow-up intervals may be appropriate for women who have had a total hysterectomy and oophorectomy.

### **Breast Cancer Surveillance Testing: Not Recommended**

#### **Complete Blood Count (CBC)**

*2006 recommendation.* CBC testing is not recommended for routine breast cancer surveillance.

#### **Automated Chemistry Studies**

*2006 recommendation.* Automated chemistry studies are not recommended for routine breast cancer surveillance.

#### **Chest X-Rays**

*2006 recommendation.* Chest x-rays are not recommended for routine breast cancer surveillance.

#### **Bone Scan**

*2006 recommendation.* Bone scans are not recommended for routine breast cancer surveillance.

#### **Ultrasound of the Liver**

*2006 recommendation.* Liver ultrasound is not recommended for routine breast cancer surveillance.

#### **Computed Tomography (CT)**

*2006 recommendation.* CT is not recommended for routine breast cancer surveillance.

#### **[<sup>18</sup>F]Fluorodeoxyglucose–Positron Emission Tomography Scanning**

*2006 recommendation.* [<sup>18</sup>F]fluorodeoxyglucose-positron emission tomography (FDG-PET) scanning is not recommended for routine breast cancer surveillance.

### **Breast Magnetic Resonance Imaging**

*2006 recommendation.* Breast magnetic resonance imaging (MRI) is not recommended for routine breast cancer surveillance.

### **Breast Cancer Tumor Markers CA 15-3 and CA 27.29**

*2006 recommendation.* The use of the CA 15-3 or CA 27.29 is not recommended for routine surveillance of breast cancer patients after primary therapy. The ASCO Breast Cancer Tumor Markers Panel will publish guideline recommendations for selected tumor markers.

### **Breast Cancer Tumor Marker Carcinoembryonic Antigen**

*2006 recommendation.* Carcinoembryonic antigen testing is not recommended for routine surveillance of breast cancer patients after primary therapy. The ASCO Breast Cancer Tumor Markers Panel will publish guideline recommendations for selected tumor markers.

## **CLINICAL ALGORITHM(S)**

None provided

## **EVIDENCE SUPPORTING THE RECOMMENDATIONS**

### **TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS**

The evidence supporting each recommendation is presented in the original guideline document under "literature update and discussion" following each recommendation. In general, the literature review supporting these recommendations centered on randomized clinical trials and meta-analyses of data from randomized clinical trials.

## **BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS**

### **POTENTIAL BENEFITS**

Appropriate follow-up and management of breast cancer in the adjuvant setting

### **POTENTIAL HARMS**

Women who perform regular breast self-examination (BSE) may be at increased risk of undergoing invasive procedures to diagnose benign breast lesions, but there are no randomized data examining the effect of BSE in conjunction with regular screening mammograms for women who have been treated for breast cancer.

## QUALIFYING STATEMENTS

### QUALIFYING STATEMENTS

It is important to emphasize that guidelines and technology assessments cannot always account for individual variation among patients. They are not intended to supplant physician judgment with respect to particular patients or special clinical situations and cannot be considered inclusive of all proper methods of care or exclusive of other treatments reasonably directed at obtaining the same result. Accordingly, the American Society for Clinical Oncology (ASCO) considers adherence to this guideline assessment to be voluntary, with the ultimate determination regarding its application to be made by the physician in light of each patient's individual circumstances. In addition, this guideline describes the use of procedures and therapies in clinical practice; it cannot be assumed to apply to the use of these interventions performed in the context of clinical trials, given that clinical studies are designed to evaluate or validate innovative approaches in a disease for which improved staging and treatment is needed.

## IMPLEMENTATION OF THE GUIDELINE

### DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

### IMPLEMENTATION TOOLS

Chart Documentation/Checklists/Forms  
Patient Resources  
Personal Digital Assistant (PDA) Downloads  
Quick Reference Guides/Physician Guides  
Slide Presentation

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

Living with Illness  
Staying Healthy

### IOM DOMAIN

Effectiveness  
Patient-centeredness  
Timeliness

## IDENTIFYING INFORMATION AND AVAILABILITY

### **BIBLIOGRAPHIC SOURCE(S)**

Khatcheressian JL, Wolff AC, Smith TJ, Grunfeld E, Muss HB, Vogel VG, Halberg F, Somerfield MR, Davidson NE, American Society of Clinical Oncology. American Society of Clinical Oncology 2006 update of the breast cancer follow-up and management guidelines in the adjuvant setting. *J Clin Oncol* 2006 Nov 1;24(31):5091-7. [30 references] [PubMed](#)

### **ADAPTATION**

Not applicable: The guideline was not adapted from another source.

### **DATE RELEASED**

1997 May (revised 2006 Nov 1)

### **GUIDELINE DEVELOPER(S)**

American Society of Clinical Oncology - Medical Specialty Society

### **SOURCE(S) OF FUNDING**

American Society of Clinical Oncology (ASCO)

### **GUIDELINE COMMITTEE**

American Society of Clinical Oncology (ASCO) Breast Cancer Tumor Markers Panel

### **COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE**

*Panel Members:* Nancy E. Davidson, MD (*Co-Chair*) Johns Hopkins Hospital, Sidney Kimmel Cancer Center; James L. Khatcheressian, MD (*Co-Chair*) Virginia Commonwealth University/Massey Cancer Center; Martha Bluming, Hematology-Oncology Medical Group of the San Fernando Valley; Laura Esserman, MD, University of California, San Francisco; Eva Grunfeld, MD, DPhil, Dalhousie University; Francine E. Halberg, MD, Marin Cancer Institute, Marin General Hospital; Alexander Hantel, MD, Loyola University, Edward Hospital Cancer Center; Alexander Kennedy, MD, Dartmouth-Hitchcock Manchester; Hyman B. Muss, MD, University of Vermont; Thomas J. Smith, MD, Virginia Commonwealth University/Massey Cancer Center; Victor G. Vogel, MD, MHS, Magee-Womens Hospital of the University of Pittsburgh Medical Center; Antonio C. Wolff, MD, Johns Hopkins Hospital, Sidney Kimmel Cancer Center

### **FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST**

Although all authors completed the disclosure declaration, the following author or immediate family members indicated a financial interest. No conflict exists for drugs or devices used in a study if they are not being evaluated as part of the

investigation. For a detailed description of the disclosure categories, or for more information about the American Society of Clinical Oncology's (ASCO's) conflict of interest policy, please refer to the Author Disclosure Declaration and the Disclosures of Potential Conflicts of Interest section in Information for Contributors in the original journal of publication.

Author	Employment	Leadership	Consultant	Stock	Honoraria	Research Funds	Testimony	Other
Victor G. Vogel			AstraZeneca; Eli Lilly			Eli Lilly; AstraZeneca		

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American Society of Clinical Oncology. Recommended breast cancer surveillance guidelines. J Clin Oncol 1997 May;15(5):2149-56.

### GUIDELINE AVAILABILITY

Electronic copies: Available from the [American Society of Clinical Oncology \(ASCO\) Web site](#).

Print copies: Available from American Society of Clinical Oncology, Cancer Policy and Clinical Affairs, 1900 Duke Street, Suite 200, Alexandria, VA 22314; E-mail: [guidelines@asco.org](mailto:guidelines@asco.org).

### AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- ASCO 2006 update of the breast cancer follow-up and management guideline in the adjuvant setting. J Clin Oncol 2006 Nov; 24(22):317-318. Available in Portable Document Format (PDF) from the [American Society of Clinical Oncology \(ASCO\) Web site](#).
- 2006 update revisions table. ASCO 2006 guideline update: breast cancer follow-up & management in the adjuvant setting. 2006. 2 p. Electronic copies: Available in Portable Document Format (PDF) from the [American Society of Clinical Oncology \(ASCO\) Web site](#).
- Breast cancer follow up & management in the adjuvant setting patient flow sheet. 2006. 1 p. Electronic copies: Available in Portable Document Format (PDF) from the [American Society of Clinical Oncology \(ASCO\) Web site](#).
- Breast cancer follow up & management in the adjuvant setting: 2006 update. Slide set. 2006. 20 p. Electronic copies: Available in Portable Document Format (PDF) from the [American Society of Clinical Oncology \(ASCO\) Web site](#).

Guidelines are available for Personal Digital Assistant (PDA) download from the [ASCO Web site](#).

See the related QualityTool tool set on the [Health Care Innovations Exchange Web site](#).

## **PATIENT RESOURCES**

The following is available:

- ASCO patient guide: follow-up care for breast cancer. 2006 Oct. 4 p.

Available in Portable Document Format (PDF) from the [Cancer.Net Web site](#).

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 NGC summary was completed by ECRI on September 1, 1998. It was verified by the guideline developer on December 1, 1998. This NGC summary was updated by ECRI on June 11, 1999, and November 22, 2006. The updated information was verified by the guideline developer on December 6, 2006.

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