

American Society of Clinical Oncology 1998 Update of Recommended Breast Cancer Surveillance Guidelines

By Thomas J. Smith, Nancy E. Davidson, David V. Schapira, Eva Grunfeld, Hyman B. Muss, Victor G. Vogel III, and Mark R. Somerfield for the American Society of Clinical Oncology Breast Cancer Surveillance Expert Panel*

Objective: To determine an effective, evidence-based, postoperative surveillance strategy for the detection and treatment of recurrent breast cancer. Tests are recommended only if they have an impact on the outcomes specified by American Society of Clinical Oncology (ASCO) for clinical practice guidelines.

Potential Intervention: All tests described in the literature for postoperative monitoring were considered. In addition, the data were critically evaluated to determine the optimal frequency of monitoring.

Outcome: Outcomes of interest include overall and disease-free survival, quality of life, toxicity reduction, and secondarily cost-effectiveness.

Evidence: A search was performed to determine all relevant articles published over the past 20 years on the efficacy of surveillance testing for breast cancer recurrence. These publications comprised both retrospective and prospective studies.

Values: Levels of evidence and guideline grades were rated by a standard process. More weight was given to studies that tested a hypothesis directly relating testing to one of the primary outcomes in a randomized design.

Benefits, Harms, and Costs: The possible consequences of false-positive and -negative tests were considered in evaluating a preference for one of two tests providing similar information. Cost alone was not a determining factor.

Recommendations: The attached guidelines and text summarize the updated recommendations of the ASCO breast cancer expert panel. Data are sufficient to recommend monthly breast self-examination, annual mammography of the preserved and contralateral breast, and a careful history and physical examination every 3 to 6 months for 3 years, then every 6 to 12 months for 2 years, then annually. Data are not sufficient to recommend routine bone scans, chest radiographs, hematologic blood counts, tumor markers (carcinoembryonic antigen, cancer antigen [CA] 15-5, and CA 27.29), liver ultrasonograms, or computed tomography scans.

Validation: The recommendations of the breast cancer expert panel were evaluated and supported by the ASCO Health Services Research Committee reviewers and the ASCO Board of Directors.

Sponsor: American Society of Clinical Oncology.
J Clin Oncol 17:1080-1082. © 1999 by American Society of Clinical Oncology.

THE REVIEW COMMITTEE met by conference call after a systematic review of the literature. Each guideline from 1997 (Table 1)¹ was reviewed. There were no significant changes from the 1997 guidelines, and all 1997 recommendations remain in effect.

From the American Society of Clinical Oncology.

Submitted December 29, 1998; accepted December 19, 1998.

**Adopted on November 13, 1998, by the American Society of Clinical Oncology.*

ASCO sincerely appreciates the contributions of the following members of the ASCO Breast Cancer Surveillance Expert Panel: Martha Bluming, Laura Esserman, Francine Halberg, Alexander Hantel, and Alexander Kennedy.

Address reprint requests to American Society of Clinical Oncology, Health Services Research, 225 Reinekers Lane, Suite 650, Alexandria, VA 22314; email padbergj@asco.org.

© 1999 by American Society of Clinical Oncology.

0732-183X/99/1703/1080

RECOMMENDED BREAST CANCER SURVEILLANCE

History/Eliciting of Symptoms

Guideline. All women should have a careful history every 3 to 6 months for the first 3 years after primary therapy, then every 6 to 12 months for the next 2 years, then annually.

1998 Update. No change.

Physical Examination

Guideline. All women should have a careful physical examination every 3 to 6 months for the first 3 years, then every 6 to 12 months for the next 2 years, then annually.

1998 Update. No change.

Breast Self-Examination

Guideline. It is prudent to recommend that all women perform monthly breast self-examination.

1998 Update. No change.

Table 1. 1997 American Society of Clinical Oncology Breast Cancer Surveillance Guidelines Summary¹

Recommended Breast Cancer Surveillance	
History/Eliciting of Symptoms	All women should have a careful history 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.
Physical Examination	All women should have a careful physical examination every 3 to 6 months for the first 3 years, then every 6 to 12 months for the next 2 years, and then annually.
Breast Self-Examination	It is prudent to recommend that all women perform monthly breast self-examination.
Mammography	It is prudent to recommend that all women with a prior diagnosis of breast cancer have yearly mammographic evaluation. Women treated with breast-conserving therapy should have their first posttreatment mammogram 6 months after completion of radiotherapy, then annually or as indicated for surveillance of abnormalities. If stability of mammographic findings is achieved, mammography can be performed yearly thereafter.
Patient Education Regarding Symptoms of Recurrence	Since the majority of recurrences occur between scheduled visits, it is prudent to inform women about symptoms of recurrence.
Coordination of Care	The majority of breast cancer recurrences will have occurred within the first 5 years after primary therapy. Subsequent care of the patient following primary treatment should be coordinated and not duplicated. In addition, continuity of care should be encouraged and conducted by a physician experienced in the surveillance of cancer patients and in the examination of women with both irradiated and normal contralateral breasts.
Pelvic Examination	It is prudent to recommend that all women have a pelvic examination at regular intervals. Longer intervals may be appropriate for women who have had a total abdominal hysterectomy and oophorectomy.
Breast Cancer Surveillance Testing—Not Recommended	
Complete Blood Cell Count	The data are insufficient to suggest the routine use of complete blood cell counts.
Automated Chemistry Studies	The data are insufficient to suggest the routine use of automated chemistry studies. Automated chemistry studies include liver and renal function tests and protein, albumin, and calcium level studies.
Chest Roentgenography	The data are insufficient to suggest the routine use of chest radiographs.
Bone Scan	The data are insufficient to suggest the routine use of bone scans.
Ultrasound of the Liver	The data are insufficient to suggest the routine use of liver ultrasounds.
Computed Tomography	The data are insufficient to suggest the routine use of computed tomography.
Breast Cancer Tumor Marker CA 15-3	The routine use of the CA 15-3 tumor marker for breast cancer surveillance is not recommended.
Breast Cancer Tumor Marker Carcinoembryonic Antigen (CEA)	The routine use of the tumor marker CEA for breast cancer surveillance is not recommended.

Mammography

Guideline. It is prudent to recommend that all women with a prior diagnosis of breast cancer have yearly mammographic evaluation. Women treated with breast-conserving therapy should have their first posttreatment mammogram approximately 6 months after completion of radiotherapy and as indicated for surveillance of abnormalities or annually. If stability of mammographic findings is achieved, mammography can be performed yearly thereafter.

1998 Update. No change.

Patient Education Regarding Symptoms of Recurrence

Guideline. Since the majority of recurrences occur between scheduled visits, it is prudent to inform women about symptoms of recurrence.

1998 Update. No change.

Coordination of Care

Guideline. The majority of breast cancer recurrences will have occurred within the first 5 years after primary therapy. Subsequent care of the patient following primary treatment should be coordinated and not duplicated. In addition, continuity of care is encouraged and should be performed by a physician experienced in the surveillance of cancer patients and in breast examination, including the examination of irradiated breasts.

1998 Update. No change.

The text of the published document contained the following statement: "Cancer patients should have the right to treatment by an oncologist indefinitely after a cancer diagnosis in accordance with ASCO policy."¹ In accord with the evidence-based guideline process, the text should be changed to read: "Follow-up of this patient by multiple specialists after initial therapy is costly and may represent duplication of effort. One randomized clinical trial (RCT) was designed specifically to evaluate whether primary care physicians instead of specialist cancer physicians can provide breast cancer surveillance. This well-designed RCT involved 296 women on follow-up for breast cancer in specialist oncology and surgical clinics in Britain. They were randomized to continued specialist follow-up (control group) or follow-up from their own general practitioner. This study found that primary care follow-up of women with breast cancer in remission is not associated with increase in time to diagnosis of recurrence, increase in anxiety, or deterioration in health-related quality of life, the outcomes selected for evaluation (level I evidence). The study also found that 69% of recurrences presented between follow-up visits and almost half of the recurrences in the specialist group presented first to the general practitioner."² Similarly rigorous evaluations of

this same surveillance question (ie, primary care versus specialist physician follow-up) in breast cancer patients being cared for in other practice settings and parts of the world, where health care delivery systems, social and cultural factors, and patient expectations may be different, are not currently available.”

Pelvic Examination

Guideline. It is prudent to recommend that all women should have a pelvic examination at regular intervals. Longer intervals may be appropriate for women who have had a total abdominal hysterectomy and oophorectomy.

1998 Update. No change.

BREAST CANCER SURVEILLANCE TESTING— NOT RECOMMENDED

Complete Blood Cell Count

Guideline. The data are insufficient to suggest the routine use of complete blood cell counts.

1998 Update. No change.

Automated Chemistry Studies

Guideline. The data are insufficient to suggest the routine use of automated chemistry studies.

1998 Update. No change.

Chest Roentgenography

Guideline. The data are insufficient to suggest the routine use of chest radiographs.

1998 Update. No change.

Bone Scan

Guideline. The data are insufficient to suggest the routine use of bone scans.

1998 Update. No change.

Ultrasound of the Liver

Guideline. The data are insufficient to suggest the routine use of liver ultrasounds.

1998 Update. No change.

Computed Tomography

Guideline. The data are insufficient to suggest the routine use of computed tomography.

1998 Update. No change.

Breast Cancer Tumor Marker Cancer Antigen (CA) 15-3

Guideline. The routine use of the CA 15-3 tumor marker for breast cancer surveillance is not recommended.

1998 Update. The routine use of the CA 15-3 or CA 27.29 tumor marker for breast cancer surveillance is not recommended.

The 1997 guidelines did not address the use of the CA 27.29 assay, recently reviewed for the American Society of Clinical Oncology Tumor Markers Clinical Practice Guideline.³ The data were not sufficient to recommend the routine use of CA 27.29. The following is excerpted from the “1997 Update of Recommendations for the Use of Tumor Markers in Breast and Colorectal Cancer” guidelines.³ “One well-designed study has shown that an increase in CA 27.29 can predict recurrence an average of 5.3 months before other symptoms or tests.⁴ However, options for therapy remain unchanged, and there has been no demonstrated impact on the most significant outcomes (improved disease-free or overall survival, better quality of life, lesser toxicity, or improved cost effectiveness).⁵ The data used by the Food and Drug Administration (FDA) to approve CA 27.29 were available to the panel previously; while the assay was approved by the FDA, the FDA does not require tests to show clinical benefit. Based on the small body of evidence and until there is evidence of clinical benefit, present data are insufficient to recommend routine use of CA 27.29.”

Breast Cancer Tumor Marker Carcinoembryonic Antigen (CEA)

Guideline. The routine use of the tumor marker CEA for breast cancer surveillance is not recommended.

1998 Update. No change.

REFERENCES

1. American Society of Clinical Oncology: Recommended breast cancer surveillance guidelines. *J Clin Oncol* 15:2149-2156, 1997
2. Grunfeld E, Mant D, Yudkin P, et al: Routine follow-up of breast cancer in primary care: Randomized trial. *BMJ* 313:665-669, 1996
3. American Society of Clinical Oncology: 1997 update of recommendations for the use of tumor markers in breast and colorectal cancer. *J Clin Oncol* 16:793-795, 1998
4. Chan DW, Beveridge RA, Hyman M, et al: Use of Truquant BR radioimmunoassay for early detection of breast cancer recurrence in patients with stage II and stage III disease. *J Clin Oncol* 15:2322-2328, 1997
5. American Society of Clinical Oncology: Outcomes of cancer treatment for technology assessment and cancer treatment guidelines. *J Clin Oncol* 14:671-679, 1996