



## Breast Self-Exam: Position Statement

Updated September 2011

### Position

There is currently no scientific evidence from randomized trials that breast self-exam (BSE) saves lives or enables women to detect breast cancer at earlier stages. In addition, there are some data that show that BSE greatly increases the number of benign lumps detected, resulting in increased anxiety, physician visits, and unnecessary biopsies. Therefore, NBCC does not support efforts to promote and teach BSE on a population-wide level in any age group of women. NBCC does not support any public health intervention until there is good scientific evidence that the benefits outweigh the risks. The Coalition believes that there is insufficient evidence to recommend for or against the practice of BSE on an individual level. If a woman wishes to be taught BSE, she must be informed of the potential risks and benefits.

### What is Breast Self-Exam (BSE)?

BSE is different than simply touching one's breasts during daily activities such as showering, dressing, or sex. Some physicians encourage women to touch their breast often so that they know what their breasts normally feel like and can identify when unusual changes occur, but this is also not BSE. BSE is a method developed for the specific purpose of searching for cancer; a woman uses her hands to systematically inspect her breasts and the surrounding areas for unusual lumps and shape changes. Usually done on a regular basis, the same technique is used each time, ensuring that all areas of the breast are felt and examined thoroughly. The purpose is to screen for and detect breast cancer as early as possible.<sup>1,2</sup>

About 80% of breast cancers not discovered by mammography are discovered by women themselves, but this is most often as part of daily living, showering, getting dressed, etc., not as part of a systematic, regular breast self examination.<sup>1</sup> In one study, only 7.6% of breast cancer patients who had practiced BSE on a regular basis actually found their breast cancers while performing BSE.<sup>3</sup> Thus, it is unclear whether BSE aids women in discovering breast cancer. Some people feel that the deliberate searching makes women overly anxious about breast cancer and unnecessarily fearful about every lump that they find.

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<sup>1</sup> Love S, Lindsay K. *Dr. Susan Love's Breast Book*, 2<sup>nd</sup> ed. Reading, MA: Addison-Wesley, 1995;25.

<sup>2</sup> Wellisch D, et al. *Annals Behav Med* 2001;23(4).

<sup>3</sup> Auvainen A, Elovainio L, Jakama M. Breast self-examination and survival from breast cancer: a prospective follow-up study. *Breast Cancer Res Treat* 1996;38(2):161-8.

## **BSE as a Public Health Intervention**

A public health intervention is any attempt to improve the health of a population of people. Some examples include programs that teach fire safety to children, administer vaccines to babies, or encourage people to stop smoking. There can be costs and risks associated with public health interventions, and it is important that scientific research demonstrate that the benefits of the intervention outweigh the risks *before* introducing it to the public.

People began to promote and teach BSE as a public health intervention long before it had been adequately studied and long before we knew if it worked. For the past few decades, many organizations have strongly recommended that every woman age 20 and older perform BSE each month. Many of these organizations have spent considerable resources on shower cards, educational programs, and videos that instruct women to use proper BSE technique,<sup>4</sup> and some companies even produce and sell models of the breast for the purpose of teaching women how to perform BSE. In addition, many physicians and nurses spend time promoting BSE and teaching the technique to their patients.<sup>5,6</sup> Due to these efforts, women have come to believe that BSE is a life-saving intervention, even though *there is no evidence showing this to be true*.

Several questions must be answered *before* we begin to advocate for BSE on a population-wide level. Does promoting and teaching a monthly regimen of BSE really help women catch breast cancers earlier than they would without the instruction? More importantly, does discovering these breast cancers result in actual lives saved? Finally, does this type of intervention have any risks or negative consequences? These difficult questions can only be answered through scientific studies. Thus far, scientific studies have *not* shown that the benefits of BSE outweigh the risks.

## **Research on BSE**

Several cross-sectional, case-control, and cohort studies, and a systematic review, have examined the effects of BSE in specific populations of women.<sup>7,8,9,10,11</sup> In these observational studies, researchers observed women who chose to practice BSE and examined whether these women detected earlier stages of breast cancer and/or survived longer than women who did not choose to practice BSE. These studies have had conflicting results, but most have failed to show that BSE benefits women.

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<sup>4</sup> Gehrke AW. Breast self-examination: A mixed message. *J Natl Cancer Inst* 2000;92(14):1120-1.

<sup>5</sup> Tessaro I, Herman C. Changes in public health nurses' knowledge and perception of counseling and clinical skills for breast and cervical cancer control. *Cancer Nurs* 2000;23(5):401-5.

<sup>6</sup> Warner SL, Worden JK, Solomon LJ, Wadland WC. Physician interest in breast cancer screening education. A survey of Vermont family physicians. *J Fam Pract* 1989;29(3):281-5.

<sup>7</sup> Holmberg L, Ekbohm A, Calle E, et al. Breast cancer mortality in relation to self-reported use of breast self-examination. A cohort study of 450,000 women. *Breast Cancer Res Treat* 1997;43:137-40.

<sup>8</sup> Harvey, BJ, Miller AB, Baines CJ, Corey PN. Effect of breast self-examination techniques on the risk of death from breast cancer. *CMAG* 1997;157(9):1205-12.

<sup>9</sup> Muscat JE, Huncharek MS. Breast self-examination and extent of disease: a population-based study. *Cancer Detect Prev* 1991;15:155-9.

<sup>10</sup> Newcomb PA, Weiss NS, Storer BE, et al. Breast self-examination in relation to the occurrence of advanced breast cancer. *J Natl Cancer Inst* 1991;83:260-5.

<sup>11</sup> Gastrin G, Miller AB, To T, et al. Incidence and mortality from breast cancer in the Mama Program for Breast Screening in Finaldn, 1973-1986. *Cancer* 1994;73:2168-74.

Unfortunately, the results of these studies may be unreliable because observational studies have several limitations when they are used to examine a screening technique such as BSE.<sup>12</sup> For example, there may be several differences between women who choose to practice BSE and women who do not choose to practice BSE that could bias the results of the study. Breast cancer screening techniques must be examined in the context of randomized clinical trials in order to determine if they are effective.

The results of prospective randomized clinical trials have demonstrated that routine BSEs do not lead to a decrease in mortality from breast cancer nor do they find cancer at earlier stages. There have been two randomized clinical trials of BSE. In each of these trials, researchers invited a large number of women to participate, and then randomly assigned these women to one of two groups. One group of women received thorough instruction in BSE and the other group, the control group, did not receive this instruction. Both groups were followed for a number of years. At the end of the follow-up period, the researchers compared the groups to determine if there were any differences in the number of women who were diagnosed with breast cancer or who died of breast cancer (mortality rate).

The first trial, which was conducted in St. Petersburg, Russia,<sup>13</sup> followed 122,471 women between the ages of 40 and 64. Trained nurses and physicians demonstrated how to perform BSE to women in the BSE group. Unfortunately, many women in the BSE group did not actually practice BSE after they were taught the technique; by the fifth year of follow-up, only 55.8% of the women practiced BSE at least 5 times per year. After 9 years of follow-up, the group that was taught BSE and the group that was not taught BSE had the same breast cancer mortality rate. There was also no difference in the stage of breast cancers diagnosed. However, BSE did result in a higher rate of biopsies for benign lumps.

The best-designed study of BSE was a randomized trial of 267,040 women ages 31-64 conducted in Shanghai, China.<sup>14</sup> Women received individual instruction in BSE using silicone breast models and they were given many reminders to practice the technique. Most women in the BSE group practiced BSE during the study period, and they were very competent in performing the technique.

After about 10 years of follow-up, the group that was taught BSE and the group that was not taught BSE had the same breast cancer mortality rate. There was also little evidence that BSE enabled women to find their cancers earlier. The BSE group and the control group found the same number of cancers each year of the study. In addition, the number of cancers that had spread to the lymph nodes was similar in each group. However, the BSE group detected many more benign lumps than the control group did.

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<sup>12</sup> These limitations include recall bias, selection bias, and lead time bias.

<sup>13</sup> Semiglazov VF, Moiseenko VM, Manikhas AG, et al. [Interim results of a prospective randomized study of self-examination for early detection of breast cancer (Russia/St. Petersburg/WHO)]. *Vopr Onkol* 1999;45:265-71.

<sup>14</sup> Thomas DB, Gao DL, Ray RM, et al. Randomized trial of breast self-examination in Shanghai. Final Results. *J Natl Cancer Inst* 2002; 94(19):1445-57.

A systematic review that analyzed the Russian and the Chinese trials together – greatly expanding the statistical power – found no evidence for beneficial effects of BSE on breast cancer.<sup>15</sup> The review did, however, confirm that there were twice as many biopsies with benign results in the screened groups compared to the control groups. The review also considered a trial looking at the benefit of clinical physical breast exam, but that trial was discontinued prematurely and did not accrue adequate data to answer the question.<sup>15</sup>

In summary, most studies have not demonstrated a benefit of BSE in women. Results from several studies, including the two randomized trials, show that BSE screening greatly increases the number of benign lumps detected. This negative consequence of BSE results in increased anxiety, physician visits, and unnecessary biopsies. Although breast biopsies are relatively simple surgeries, they can cause distress, scarring and disfigurement.

### **Recommendations**

In 2009, the U.S. Preventive Services Task Force concluded that there is insufficient evidence to recommend for or against teaching or performing routine breast self-examination.<sup>16</sup> The American Cancer Society phased out materials that focus only on breast self-exam, and now recommends the pros and cons of BSE be reviewed with women beginning in their 20s and that the ultimate decision of whether to practice BSE be left up to the individual.<sup>17</sup>

NBCC believes that broad public health recommendations and interventions should be based on research evidence. The studies of BSE have not proven definitively that women do not benefit from BSE. However, these studies have so far failed to provide evidence that women *do* benefit from BSE. Because there is no evidence that BSE benefits women, the Coalition does not support any programs that aim to promote or teach BSE on a population-wide level. This includes both privately and publicly funded programs.

We cannot afford to waste our limited resources on a public health intervention that has not been shown effective, particularly when there is evidence that the intervention may be causing harm. These resources would be better spent on funding more research studies to identify better ways to detect, treat, and prevent breast cancer. These resources would also be better spent on interventions that have already been shown to reduce breast cancer mortality, such as providing appropriate treatment for all women diagnosed with breast cancer.

NBCC is not recommending that women stop practicing BSE. The decision of whether or not to practice BSE must be made individually. However, if a woman wishes to be taught BSE, she must be informed of the potential risks and benefits.

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<sup>15</sup> Kusters JP and Gotszsch PC. Regular self-examination or clinical examination for early detection of breast cancer (Review). John Wiley & Sons Ltd. (for The Cochrane Collaboration). 2008.

<sup>16</sup> U.S. Preventive Services Task Force. *Screening for Breast Cancer. Summary of Recommendations*. Nov. 2009. [www.uspreventiveservicestaskforce.org](http://www.uspreventiveservicestaskforce.org)

<sup>17</sup> Allen TL, Van Groningen BJ, Barksdale DJ, McCarthy R. The Breast Self-Examination Controversy: What Providers and Patients Should Know. *J Nurse Pract*. June 2010;6(6):444-51.

**Conclusion**

Because BSE has been aggressively promoted for so many years, NBCC recognizes that the above recommendations may be difficult to accept. However, the Coalition would rather women know the truth about BSE than give them false information or a false sense of security.

It is very unfortunate that at this point women have no adequate breast cancer screening options. NBCC is hopeful that this knowledge will encourage more women to fight for the research needed to develop better screening tools, preventions, and treatments for breast cancer.