



## Cornell University Program on Breast Cancer and Environmental Risk Factors in New York State (BCERF)

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FACT SHEET #29

### Breast-feeding and the Risk of Breast Cancer

*Breast-feeding may offer some modest protection against the development of breast cancer, particularly in young women. Considering the other health benefits of breast-feeding for both mothers and their babies, this information should encourage new mothers to try to arrange their schedules to accommodate breast-feeding .*

#### **Does breast-feeding influence the risk of breast cancer?**

Breast-feeding may modestly reduce the risk of developing breast cancer. Out of 31 studies, more than half reported that women who breast-fed had a decreased risk of developing breast cancer (ranging from 10%-64%) compared to women who never breast-fed. The rest of the studies reported that breast-feeding had no influence on the risk of developing breast cancer.

The results of these studies may vary because of differences in the pattern of breast-feeding among women in different cultures, such as when solid foods are added, how often a child is fed, and the reasons for stopping breast-feeding. Another reason may be that some studies used information on the average length of time of breast-feeding per child, while others asked for the total length of time of breast-feeding all children combined. In addition, other reproductive factors, such as number of children and a woman's age at first birth, are very closely related to breast-feeding and may also influence breast cancer risk. Other issues being studied include whether the age at which a woman first breast-feeds is important, and the effects of breast-feeding in women with a family history of breast cancer. Finally, it is also possible that breast-feeding has different effects on the risk of developing premenopausal breast cancer compared to postmenopausal breast cancer.

#### **Does breast-feeding influence the risk of premenopausal and postmenopausal breast cancer differently?**

Breast-feeding may be more protective against the development of premenopausal compared to postmenopausal breast cancer. In some studies where there was no overall reduction in breast cancer risk associated with breast-feeding, an analysis of the data by menopausal status revealed a slight protective effect of breast-feeding in younger premenopausal women. Many other studies that focused specifically on young women reported that the incidence of premenopausal breast cancer was lower among women who breast-fed. Many researchers think that premenopausal breast cancer and postmenopausal breast cancer are different diseases. However, it is not clear why breast-feeding may be more protective against premenopausal breast cancer than postmenopausal breast cancer.

#### **How long should women breast-feed?**

Although there are a few studies that report a decrease in the risk of breast cancer after only three or more months of breast-feeding, the evidence for risk reduction becomes more consistent the longer women breast-feed. The most consistent evidence of a relationship between breast-feeding and the risk of breast cancer has been reported in studies of Chinese women who breast-fed for long periods of time.



In these studies, women who breast-fed for a total of six years or more (all children combined) over the course of their lives had as much as a 63% decrease in breast cancer incidence compared to women who never breast-fed.

The American Academy of Pediatrics recommends that women begin breast-feeding within the first hour after birth if possible. For most women, exclusive breast-feeding is recommended for about the first six months and breast-feeding should continue for at least 12 months thereafter. In the report Healthy People 2000, the US Department of Health and Human Services set goals to: 1) increase to at least 75% the proportion of mothers who breast-feed their babies in the early postpartum period, and 2) increase to at least 50%, the proportion who continue breast-feeding until their babies are five to six months old.

### **Is there any evidence that drugs used to suppress lactation influence breast cancer risk?**

Studies that examined the use of drugs to suppress lactation reported that these drugs do not have any influence on the risk of developing breast cancer.

### **Should breast cancer survivors breast-feed?**

Since there are relatively few cases of breast cancer in premenopausal women, there are also very few studies that have looked at the effects of treatment for breast cancer on breast-feeding. The ability to breast-feed after treatment for breast cancer depends on the individual and on the treatment she received. Surgery and radiation may impair a woman's ability to breast-feed on the affected side. Radiation may cause skin damage during treatment similar to sunburn or chapped skin and, in order to avoid infection so treatment can continue, it is usually recommended that breast-feeding from the breast being treated be stopped. In some cases, women reported that there seemed to be less milk produced in the irradiated breast. However, they were able to breast-feed from the untreated breast. Other women have reported that they were able to breast-feed from both the treated and the untreated breast after radiation treatment.

Lumps are common in the breasts of women who are breast-feeding. Not all are cancer, but all should be evaluated seriously by a health care provider. Women should feel comfortable getting a second opinion about a persistent lump. Although physical changes in the breasts

of women who are pregnant or breast-feeding may hide a lump, women who are breast-feeding should examine their breasts for changes or abnormalities. The best time to examine the breasts is immediately after a feeding. Women should talk to their health care providers about any unusual physical changes in their breasts while they are breast-feeding.

Women needing to undergo any kind of treatment for breast cancer, including surgery, chemotherapy, or radiation should talk with their health care providers if breast-feeding is a concern. It may be possible to breast-feed before and after surgery and through radiation, though probably not on the side being irradiated. Since many drugs may be passed to an infant through breast milk, breast-feeding women should always talk with their health care providers about any medications they are taking.

### **How might breast-feeding influence the risk of breast cancer?**

There are several ways that breast-feeding may influence the risk of developing breast cancer. Breast-feeding may

- Cause hormonal changes, such as a decrease in the level of estrogen. Lower levels of estrogen may decrease a woman's risk of developing breast cancer.
- Suppress ovulation. According to some studies, women who have fewer ovulatory cycles over the course of their reproductive lives may have a decreased risk of developing breast cancer.
- Remove possible carcinogens that are stored in the adipose tissue of the breast (see below for more information).
- Cause physical changes in the cells that line the mammary ducts. These changes may make the cells more resistant to mutations that can lead to cancer.

### **Does breast-feeding influence the risk of breast cancer for the baby?**

There is some preliminary evidence that there may be a slight decrease in the risk of developing breast cancer among women who were breast-fed as infants. This protection may be due to the hormones and immune factors present in breast milk. It may also be due to the fact



that babies who are breast-fed take in fewer calories and gain weight more slowly than babies who are bottle fed. There are some studies that report that earlier maturation in childhood may increase the risk of developing breast cancer later in life (see BCERF Fact Sheet #8--*Childhood Life Events and the Risk of Breast Cancer* for more information).

In other preliminary studies, no association was found between being breast-fed as an infant and the development of breast cancer later in life. In addition, one study reported that there was no difference in the risk of breast cancer among women who had been breast-fed by a mother who eventually developed the disease.

### **Are there any health concerns associated with breast-feeding?**

Breastmilk is considered to be the ideal nutrient source for infants. However, because certain chemicals persist in the environment, are stored in fat and secreted in breast milk, they have been studied by researchers at the National Institute of Environmental Health Sciences (NIEHS). These researchers concluded that in the **vast majority** of women the benefits of breast-feeding appear to outweigh possible risks.

In only a few cases, women should consult with their health care providers before breast-feeding. These cases include women with certain infectious diseases, women who have been taking prescription or street drugs, or women who may be exposed to high levels of certain environmental contaminants. There are only a few circumstances that may lead to some women having high levels of chemicals in their breast milk. These circumstances are 1) having a history of work-place exposure to environmental chemicals, 2) having a large accidental exposure and 3) regularly consuming fish that are caught in contaminated waters (this does not include fish bought in supermarkets).

Women can obtain information on the safety of consuming fish caught in different statewide bodies of water from the New York State Department of Health (DOH) by accessing their website at—<http://www.health.state.ny.us/nysdoh/environ/fish98.htm>, by calling the Center for Environmental Health at 1-800-458-1158 to request a fish advisory, or by picking up a hunting and fishing guide at any store that sells hunting and fishing equipment. According to the 1998-1999 report on “Chemicals in

Sportfish and Game”, DOH recommends that women of childbearing age, infants, and children under the age of 15 do not eat any fish from the specific waterbodies listed in the advisory. Information on the safety of consuming fish in bodies of water throughout the United States can be obtained by calling the Environmental Protection Agency at: 1-513-489-8190. Also, researchers at the Bureau of Toxic Substance Assessment in the DOH (led by Dr. Judith Schreiber) are continuing to assess the effects of various environmental chemicals on human health.

For more information, women can obtain a helpful review from the US Department of Health and Human Services by calling 1-703-356-1964 and requesting a copy of the “Maternal and Child Health Technical Information Bulletin: A review of the medical benefits and contraindications to breastfeeding in the United States” by Dr. Ruth Lawrence.

### **What are the other health benefits of breast-feeding?**

There are many important health benefits associated with breast-feeding for both the mother and the baby. Babies who are breast-fed have a lower incidence or severity of several childhood illnesses including diarrhea, lower respiratory infections, ear infections, and bacterial meningitis. Other possible protective effects have been reported against sudden infant death syndrome, allergic diseases, and chronic digestive diseases.

Women who breast-feed their infants have less postpartum bleeding and may have an earlier return to pre-pregnant weight. There is also some evidence that they have an improved bone remineralization after they stop breast-feeding, which may lead to a reduction in hip fractures during the postmenopausal years.



**An extensive bibliography on *Breast-feeding and the Risk of Breast Cancer* is available on the BCERF web site: <http://www.cfe.cornell.edu/bcerf/>**

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