



Breast Cancer and Risk Factors

In this section, you will find information about breast anatomy and how cancer can develop in the breast. You will also find information about risk factors for breast cancer. Because so many factors are under examination, we have divided them into four categories: risk factors we cannot change, risk factors we can change, risk factors that require further study, and factors that have no proven impact on risk.

The Breast

The breast is made up of fatty, connective and lymphatic tissue, as well as lobules and ducts. When a woman is breastfeeding, milk is produced in the **lobules** and then travels through the **ducts** to reach the nipple. Because of genetic and hormonal factors, breasts come in all shapes and sizes. The shape and size of your breasts does not determine whether you will develop cancer.

Fibrocystic changes in the breast

Since the breast is a gland, it will often feel lumpy because of the changes that occur with the hormonal fluctuations during the menstrual cycle. For women between the ages of 30 and 50, breast lumps are most frequently caused by **fibrocystic changes**. This is not cancer. It is a condition that is caused by the thickening of tissue in the breast due to stimulation by hormones. As the amount of hormones fluctuates during a woman's menstrual cycle, the breast tissue will alternately swell and return to normal. Over time this cycle of changes can result in the feeling of lumpiness in the breast. Sometimes women with fibrocystic changes develop pockets filled with fluid called **cysts**. Cysts are not cancerous, but they can be uncomfortable and may be drained in the physician's office.

Because the levels of estrogen and progesterone are highest just before a woman's menstrual period, the lumps tend to be largest at that time. During the week following a woman's period, the breast lumps are usually reduced to their smallest size. For this reason, women are encouraged to do a breast self-examination in the week following their period. More information on breast self-exam can be found in **Breast Cancer Prevention Options under Increased Surveillance**.

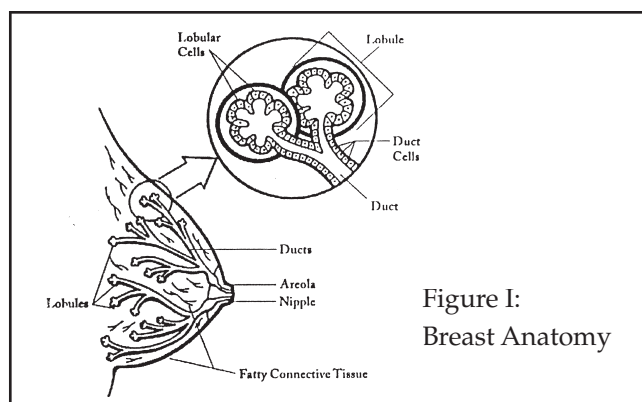


Figure I:
Breast Anatomy

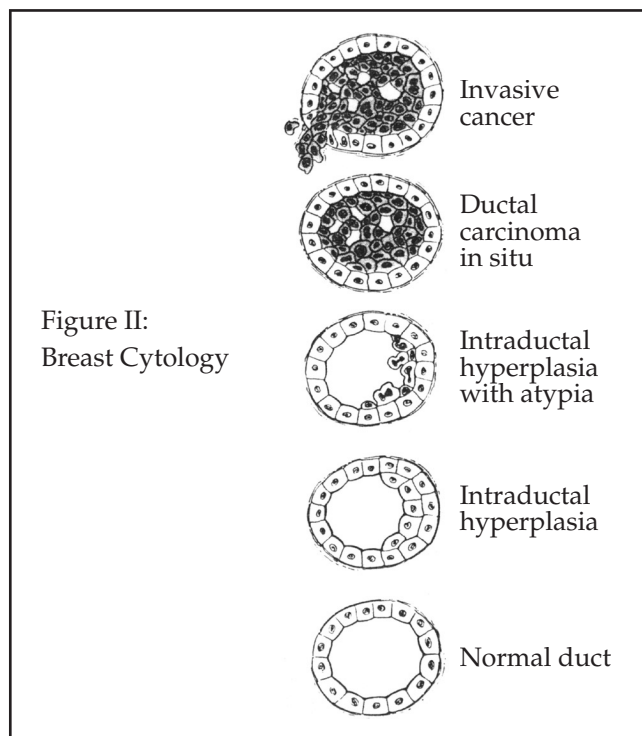


Figure II:
Breast Cytology

Figure I and Figure II Taken from: S. M. Love, "Dr. Susan Love's Breast Book" (New York: Addison-Wesley Publishing Company, 1995), p. 220.

Breast Cancer

Breast cancer is caused by uncontrolled growth of cells in the breast. Approximately 90% of breast cancers begin in the milk ducts, and 10% begin in the lobules.¹ While the cancerous cells remain inside the duct or lobule, these cancers are called **in situ**. After a diagnosis of in situ cancer, there is currently a 5-year survival rate of 97%.²

Once the cells have broken through the wall of a duct or lobule, the cancer is called **invasive**. If the cells then travel into the lymphatic vessels of the breast, they may be carried to other parts of the body so that the cancer spreads. This process is called **metastasis**.

Most Common Types of Breast Cancer

Ductal carcinoma in situ (DCIS) is breast cancer that is still confined to the ducts. Usually, it cannot be felt by breast examination, but it is frequently seen by mammography. DCIS accounts for about 88% of in situ breast cancers.³

Invasive ductal carcinoma is cancer that has broken through the wall of the duct to invade healthy surrounding breast tissue. It is the most common type of breast cancer.

Lobular carcinoma in situ (LCIS) is a breast lesion that is not considered to be cancer, but which raises a woman's risk of developing invasive cancer in either breast. It is not known whether LCIS is a precursor to invasive breast cancer or a risk factor for future breast cancer development. LCIS is relatively rare. While DCIS accounts for 88% of in situ breast cancers, LCIS accounts for the remaining 12%.

Invasive lobular carcinoma is breast cancer that has broken through the wall of the lobule to invade healthy surrounding breast tissue.

Risk Factors

Many women who develop breast cancer do not have any known risk factors. Still, we know that women who possess certain risk factors are at a higher risk of developing breast cancer than the general population. Although some women who have one or more risk factors may never develop breast cancer, we can use the knowledge of these risk factors to target women who are at higher risk with increased breast surveillance and breast cancer prevention strategies.

Certain, unavoidable risk factors—such as gender and age—make us all susceptible to breast cancer.

Other risk factors, such as family history, are also factors that we cannot change. However, research has shown that there are some risk factors, including alcohol intake and body weight, which are modifiable.

Below you will find a summary of the factors that increase risk for developing breast cancer, factors that we *cannot* change and factors that we *can* change.

Risk Factors We Cannot Change

(1) **Gender:** Women account for more than 99% of all breast cancer cases.⁴

(2) **Age:** After gender, age is the most influential risk factor for developing breast cancer. Women younger than age 40 accounted for only 4.7% of invasive breast cancer diagnoses and only 3.6% of in situ breast cancer diagnoses. Over 70% of all breast cancer diagnoses are made in women who are 50 or older.⁵

You may have heard the statistic that 1 in 8 women in the United States will develop breast cancer. This does not mean that a woman of any age has a 1 in 8 chance of developing breast cancer. This statistic conveys a woman's *lifetime risk*. This means that if a woman lives until age 85, she has a risk of 1 in 8 of developing breast cancer sometime during her lifetime.⁶

(3) **Race:** After age 40, Caucasian women are more likely to be diagnosed with breast cancer than African American women. However, African American women are more likely than white women to die of breast cancer. Women of Asian, Hispanic, or American Indian descent are at lower risk than Caucasian or African American women for developing breast cancer.⁷

(4) **Personal history of breast cancer:** If a woman has had cancer in one breast, she is at increased risk of developing cancer in the other breast.⁸

(5) **Family history of breast cancer:** Women with a relative who has had breast cancer are at higher risk of developing breast cancer themselves, particularly if it is a first-degree relative (mother, sister or daughter). That risk is further increased if a woman has multiple first-degree relatives who have had breast cancer, or if she has a first-degree relative who developed breast cancer at a young age or in both breasts.⁹

Patients with family members who have had breast and/or ovarian cancer may choose to see a qualified genetic counselor from the UCSF Cancer Risk Program. These counselors are available to

evaluate a person's likelihood of carrying a gene mutation and to discuss the possibility of genetic testing. More information about genetic counseling is located under **Breast Cancer Prevention Options and Resources/Clinical Trials**.

(6) **Genetic risk factors:** Women who have certain inherited gene mutations (including BRCA1 and BRCA2) have a significantly increased risk of breast cancer and account for about 5 to 10% of the breast cancer cases.¹⁰ In most women, the normally functioning BRCA1 and BRCA2 genes help to prevent breast cancer by controlling cell growth. However, these genes are no longer able to control cell growth properly unmutated. Since these genes are passed down from your parents, it is possible to carry a gene mutation from the mother *or* father's side of the family.

A female who carries either the BRCA1 or BRCA2 gene mutation has up to an 85% chance of developing breast cancer by the age of 70.¹¹ However, in men the BRCA2 gene mutation is reported to increase risk of breast cancer more than the BRCA1 gene mutation. Males who carry the BRCA2 gene mutation have a suggested 6% chance of developing breast cancer during a lifetime.¹²

A prevalence of the BRCA1 and BRCA2 gene mutations has been observed in the Ashkenazi Jewish (ancestry from European or Central Europe) population.¹³ Having one or more relatives with breast or ovarian cancer, and being of Ashkenazi Jewish descent, puts a person at greater risk for carrying a BRCA gene mutation.

(7) **Radiation:** Exposure to high doses of chest radiation (ie. medical therapy for Hodgkin's Disease), particularly during childhood, can greatly increase a woman's risk of developing breast cancer. Researchers have found that the age at which radiation was received is inversely related to the acquired risk. Thus, women who received radiation after their menopausal years incurred very little risk.¹⁴

(8) **DES exposure:** In the 1950s and 1960s, many pregnant women took a synthetic form of estrogen called diethylstilbestrol (DES) to prevent miscarriage. Many of these women's daughters eventually developed vaginal and cervical cancer at a rate that seemed higher than normal, and studies found that DES exposure was indeed associated with an increased risk of these types of cancer.

Because of the exposure to additional estrogen, women who were exposed to DES in-utero may also

be at higher risk for breast cancer. A study published in October 2002 found that in women who were 40 years and older, breast cancer risk was in fact increased if a woman had been exposed to DES.¹⁵

(9) **Age at menstruation:** A woman's amount of exposure to estrogen and progesterone during her lifetime is believed to be a risk factor. The longer a woman is exposed, the more likely she is to develop breast cancer. Therefore, if a woman begins menstruation before age 12, she is believed to be at *slightly* higher risk.¹⁶

(10) **Age at first birth:** It has been observed that women who have their first child after age 29 (or who do not have any children) are at slightly higher risk for breast cancer than women who have their first child before age 29. It has been proposed that breast changes during pregnancy may have protective effects against cancer development because risk of breast cancer appears to decrease with each additional childbirth.¹⁷

It is important to note that evidence suggests the opposite is true for women who have a family history of breast cancer. In other words, women who have a family history of breast cancer are at **lower** risk if they have no children or have their children at a later age.¹⁸

(11) **Age at menopause:** Women who go through menopause after the age of 54 have a slightly higher risk of breast cancer than women who go through menopause at age 54 or younger. Their higher risk may be related to their higher lifetime exposure to estrogen and progesterone.¹⁹

(12) **Atypical hyperplasia or atypia:** Either **atypical hyperplasia** or **atypia** indicates the growth of abnormal cells in the breast. The diagnosis of atypical hyperplasia can be made from a core biopsy or excisional biopsy, and has been correlated with an increased risk of breast cancer.²⁰ The diagnosis of atypia can be made from nipple aspiration, ductal lavage, or Fine Needle Aspiration (FNA), and also indicates an increased breast cancer risk.²¹ Although these cells are not yet cancerous, they do raise a woman's risk of eventually developing breast cancer.

While biopsies and FNAs are usually reserved for when there is a **current** indication that a woman might have breast cancer, nipple aspiration and ductal lavage are methods that may help assess a woman's **future** risk of breast cancer. To learn more about how nipple aspiration or ductal lavage may help make more informed decisions about prevention treatment, please see **Breast Cancer Prevention Options** under

Learning More About Your Risk.

(13) Breast density: Studies have consistently shown that higher breast density is linked with increased risk of breast cancer.²² Current research is examining whether breast density may be modifiable by changing women's hormones or diet. One medication that has been demonstrated to reduce breast density is tamoxifen.²³ For more information on current clinical trials, see **Resources/Clinical Trials**.

(14) Serum estradiol level - Estradiol is the predominant form of estrogen circulating in the body. "Serum estradiol" refers to the amount of estradiol in the blood, so a woman's level of serum estradiol may be measured with a simple blood test. In postmenopausal women, higher hormone levels in the blood have been associated with an increased risk of breast cancer.²⁴ For more information about why a woman might have her serum estradiol level measured, please see **Breast Cancer Prevention Options** under **Learning More About Your Risk**.

Risk Factors We Can Change

(1) Obesity: Studies have shown a clear association between obesity and increased risk of post-menopausal breast cancer.²⁵ Because having more fat tissue can increase a woman's level of estrogen, it is important for a woman to attempt to control her weight, particularly after menopause. Once a woman has stopped menstruating, her levels of estrogen and progesterone are much lower than they once were. Excess fat tissue may cause significant increases in her hormone levels.

(2) Physical Activity: Not only can physical activity help a woman to reduce her risk of breast cancer by maintaining a healthy bodyweight, but it may also have its own benefits to risk reduction. Some studies have shown that physical exercise throughout a woman's life reduces her risk, independent of her weight. One theory is that exercise may reduce a woman's risk by limiting menstrual function, and it has been observed that regular physical exercise can delay the age of menarche when body fat percentage is low.²⁶ Since breast cancer risk may be significantly influenced by a woman's lifetime exposure to hormones, reducing that exposure may also reduce her risk.

(3) Alcohol consumption: Many epidemiological studies spanning the past 20 years have shown an association between alcohol consumption

and increased risk of breast cancer. Studies have consistently found that women who consume at least three alcoholic drinks per day are at higher risk for developing breast cancer than women who do not drink alcohol. Furthermore, study findings have shown that for women who drink two alcoholic drinks or more per day, breast cancer risk is related to the amount of alcohol consumed (ie. higher consumption of alcohol equals higher breast cancer risk).²⁷

Among other mechanisms, it has been suggested that alcohol may increase a woman's hormone levels. A recent study fed women specified amounts of alcohol each day, and demonstrated that a woman's levels of blood estrogen did increase according to the amount of alcohol she consumed.²⁸ In particular, the breast cancer risk of post-menopausal women, whose bodies make very little estrogen as compared with pre-menopausal women, may be affected by alcohol consumption by this mechanism.

(4) Hormone Replacement Therapy: A study conducted by the Women's Health Initiative (WHI) showed that women in the study population who took hormone replacement therapy (combined estrogen and progestin) had a 26% increased risk (relative to an average woman) of invasive breast cancer after four to five years of therapy.²⁹ This finding is consistent with the growing evidence that exogenous (outside) hormones increase a woman's lifetime estrogen exposure as well as increasing her breast cancer risk.

(5) Breastfeeding: An analysis published in July 2002 pulled together data from 47 previous studies to show that breastfeeding does in fact slightly lower a woman's risk of breast cancer. The longer a woman breastfed, the lower her risk was.³⁰ For optimal benefit, we recommend breastfeeding a child for 12 months.

The decision of whether or not to breastfeed is certainly a very personal one. The knowledge that breastfeeding may offer a slight reduction in risk for developing breast cancer is just one of the many factors that will influence how long a woman decides to breastfeed.

Factors Requiring Further Study

(1) **Oral contraceptives:** The effect of oral contraceptives (birth control pills) on breast cancer risk is still being studied. While some studies have shown that taking oral contraceptives slightly increases a woman's risk of breast cancer, other studies have shown no effect on risk. A recent analysis showed that women who took oral contraceptives in the long-term (more than 12 years) had a slightly higher risk of breast cancer than women who did not take oral contraceptives.³¹ Once women had stopped taking oral contraceptives for 10 years, their risk appeared to return to the baseline, average risk.³²

(2) **Environmental pollutants:** Because studies have shown that breast cancer is not always attributable to inherited factors, extensive research is examining aspects of the environment that might contribute to breast cancer development. Some studies are focused on a possible link between environmental pollutants, such as pesticides, and an increased risk of breast cancer, but no clear link has been established. Thus far, the evidence that has been gathered suggests that environmental pollutants are probably not the major cause of breast cancer. For more information about research that is currently examining the relationship between women's health and the environment, please see the **Resources/Clinical Trials** section.

(3) **Smoking:** We know that smoking increases a person's risk of heart disease and lung cancer, but a consistent association between smoking and an increased risk of breast cancer has not been demonstrated. However, researchers continue to study the potential impact of smoking on breast cancer risk, and in some cases they are noticing a link. A recent study suggested that women who were exposed to cigarette smoke (both active and passive smoking) were indeed at higher risk of breast cancer.³³ Another study, published in the same month, proposed that the effect of cigarette smoking on breast cancer risk was related to the *time of exposure* in its study population, with women who had started smoking at a young age having the highest risk.³⁴

Although the association between smoking and breast cancer risk is not clearly established, smoking is *strongly discouraged* because of its known impact on a person's risk of heart disease and lung cancer.

(4) **High-fat Diet:** Several studies have investigated the relationship between a high-fat diet and a woman's risk of breast cancer. While some studies have shown that a high-fat diet does increase a woman's breast cancer risk,³⁵ other studies have not found a significant relationship.³⁶ Researchers are also examining whether the types of fat eaten affect the risk of breast cancer (ie. saturated versus unsaturated). Thus far, while there is a clear link between a high-fat diet and an increased risk of heart disease, the association between diet and breast cancer risk is unclear. Nonetheless, it is important to manage dietary fat intake in order to maintain a healthy bodyweight (see above, **Risk factors We Can Change**).

Factors with no proven impact on risk

(1) **Antiperspirants:** No research has shown that the use of antiperspirant increases the risk of breast cancer. A recent study showed that women who had breast cancer were no more or less likely to use antiperspirant than women who had not had breast cancer.³⁷

(2) **Underwire bras:** Rumors over e-mail have suggested that underwire bras might cause breast cancer. However, there is absolutely no evidence demonstrating that underwire bras are related to the development of breast cancer.

(3) **Abortion:** Because of the hormonal changes during pregnancy, many studies have examined the possible relationship between abortion and breast cancer risk. Some studies have shown that induced abortion may result in a slight increase in risk, but many studies have shown no effect on risk, including a study of 1.5 million women in Denmark.³⁸ At this time there is insufficient data to suggest that women who have abortions are at increased risk.

(4) **Breast implants:** Studies have consistently shown that breast implants do not have an association with increased rates of breast cancer.³⁹ Women with breast implants should follow breast screening guidelines just like women without breast implants. The only difference is that women with breast implants will have additional images taken during their mammograms to ensure that all the breast tissue is available for observation.

(Endnotes)

¹ Wellings, S.R., H.M. Jensen and R.G. Marcum, *An atlas of subgross pathology of the human breast with special reference to possible precancerous lesions*. J Natl Cancer Inst, 1975. 55(2): 231-73

² American Cancer Society, *Cancer Facts & Figures*, 2001.

³ American Cancer Society, *Cancer Facts & Figures*, 2001.

⁴ Giordano S.H., Buzdar A.U., and G.N. Hortobagyi. *Breast cancer in men*. Ann Intern Med, 2002 Oct 15. 137(8): 678-87.

⁵ American Cancer Society, *Surveillance Research*, 2001.

⁶ National Cancer Institute Surveillance, Epidemiology, and End Results Program, 1997-1999.

⁷ Ries L.A.G., Eisner M.P., Kosary C.L., Hankey B.F., Miller B.A., Clegg L., Edwards, B.K. (eds). *SEER Cancer Statistics Review, 1973-1998*, National Cancer Institute. Bethesda, MD. 2001.

⁸ Harris J.R., Lippman M.E., Veronesi U., Willett W. *Breast cancer* (1). N Engl J Med, 1992. 327: p. 319-28

⁹ Hulka B.S., Stark A.T. *Breast cancer: cause and prevention*. Lancet. 1995. 346: p. 883-887

¹⁰ Burke W., Daly M., Garber J., Botkin J. Ellis Kahn M.J., et al. *Recommendations for follow-up care of individuals with an inherited predisposition to cancer. II. BRCA1 and BRCA2*. JAMA, 1997. 277: p. 997-1003

¹¹ Ford D., Easton D.F., Stratton M., Narod S., Goldgar D., Devilee P., and al. *Genetic heterogeneity and penetrance analysis of the BRCA1 and BRCA2 genes in breast cancer families*. The Breast Cancer Linkage Consortium. Am J Hum Genet, 1998. 62: p. 676-89

¹² Wolpert N., Warner E., Seminsky M.F., Futreal A., Narod S.A. *Prevalence of BRCA1 and BRCA2 mutations in male breast cancer patients in Canada*. Clin Breast Cancer, 2000 Apr. 1(1): p. 57-63; discussion p. 64-5

¹³ Struewing J.P., Hartge P., Wacholder S., Baker S.M., Berlin M., McAdams M., et al. *The risk of cancer associated with specific mutations of BRCA1 and BRCA2 among Ashkenazi Jews*. N Engl J Med, 1997. 377: p. 1401-8

¹⁴ Boice J.D. Jr. *Radiation and breast carcinogenesis*. Med Pediatr Oncol, 2001 May. 36(5): p. 508-13

¹⁵ Palmer J.R., Hatch E.E., Rosenberg C.L., Hartge P., Kaufman R.H., Titus-Ernstoff L., et al. *Risk of breast cancer in women exposed to diethylstilbestrol in utero: preliminary results (United States)*. Cancer Causes Control, 2002 Oct. 13(8): p. 753-8

¹⁶ Clemons M., Goss P. *Estrogen and the risk of breast cancer*. N Engl J Med, 2001 Jan 25. 344(4): p. 276-85

¹⁷ Lambe M., Hsieh C.C., Chan H.W., Ekbom A., Trichopoulos D., Adami H.O. *Parity, age at first and last birth, and risk of breast cancer: a population-based study in Sweden*. Breast Cancer Res Treat, 1996. 38(3): p. 305-11

¹⁸ Gail M.H., Costantino J.P., Bryant J., Croyle R., Freedman L., Helzlsouer K. et al. *Weighing the Risks and Benefits of Tamoxifen Treatment for Preventing Breast Cancer*. J Natl Cancer Inst, 1999 Nov 3. 91(21): p. 1829-1846

¹⁹ Clemons M., Goss P. *Estrogen and the risk of breast cancer*. N Engl J Med, 2001 Jan 25. 344(4): p. 276-85

²⁰ Dupont W.D., Parl F.F., Hartmann W.H., Brinton L.A., Winfield A.C., Worrell J.A., et al. *Breast cancer risk associated with proliferative breast disease and atypical hyperplasia*. Cancer, 1993. 71: p. 1258-65

²¹ O'Shaughnessy J.A., Ljung B-M., Dooley W.C., Chang J., Kuerer H.M., Hung D.T., et al. *Ductal Lavage and the Clinical Management of Women at High Risk for Breast Carcinoma*. Cancer, 2002 Jan 15. 94(2): p. 292-298

²² Boyd N.F., Byng J.W., Jong R.A., et al. *Quantitative classification of mammographic densities and breast cancer risk: results from the mammographic densities and breast cancer risk: results from the Canadian National Breast Screening Study*. J Natl Cancer Inst, 1995. 87: p. 670-75

²³ Brisson J., Brisson B., Cote G., Maunsell E., Berube S., Robert J. *Tamoxifen and mammographic breast densities*. Cancer Epidemiol Biomarkers Prev., 2000 Sep. 9(9): p. 911-5

²⁴ Cummings S.R., Duong T., Kenyon E., Cauley J.A., Whitehead M., Krueger K.A. *Serum estradiol level and risk of breast cancer during treatment with raloxifene*. JAMA, 2002 Jan 9. 287(2): p. 216-20

²⁵ Morimoto L.M., White E., Chen Z., Chlebowski R.T., Hays J., Kuller L. *Obesity, body size, and risk of postmenopausal breast cancer: the Women's Health Initiative (United States)*. Cancer Causes Control, 2002 Oct. 13(8): p. 741-51

²⁶ Bernstein, L. *Epidemiology of endocrine-related risk factors for breast cancer*. J Mammary Gland Biol Neoplasia, 2002 Jan. 7(1): p. 3-15

²⁷ Signletary K.W., Gapstur S.M. *Alcohol and breast cancer: review of epidemiologic and experimental evidence and potential mechanisms*. JAMA 2001 Nov 7. 286(17): p. 2143-51

²⁸ Dorgan J.F., Baer D.J., Albert P.S., Judd J.T., Brown E.D., Corle D.K., et al. *Serum hormones and the alcohol-breast cancer association in postmenopausal women*. J Natl Cancer Inst, 2001 May 2. 93(9): p. 710-5

²⁹ Rossouw J.E., Anderson G.L., Prentice R.L., LaCroix A.Z., Kooperberg C., Stefanick M.L., et al. *Risks and benefits of estrogen plus progestin in healthy postmenopausal women: principal results from the Women's Health Initiative Randomized Controlled Trial*. JAMA, 2002 Jul 17. 288(3): p. 321-33

³⁰ Collaborative Group on Hormonal Factors in Breast Cancer. *Breast cancer and breastfeeding: collaborative reanalysis of individual data from 47 epidemiological studies in 30 countries, including 50302 women with breast cancer and 96973 women without the disease*. Lancet, 2002 Jul 20. 360(9328): p. 187-95

³¹ Ursin G., Ross R.K., Sullivan-Halley J., et al. *Use of oral contraceptives and risk of breast cancer in young women*. Breast Cancer Res Treat, 1998. 50: p. 175-84

³² Collaborative Group on Hormonal Factors in Breast Cancer. *Breast cancer and hormonal contraceptives: a collaborative reanalysis of individual data on 53297 women with breast cancer and 100239 women without breast cancer from 54 epidemiological studies*. Lancet, 1996. 347: p. 1713-27

³³ Kropp S., Chang-Claude J. *Active and Passive Smoking and Risk of Breast Cancer by Age 50 Years among German Women*. Am J Epidemiol, 2002 Oct 1. 156(7): p. 616-26

³⁴ Band P., Le N., Fang R., Deschamps M. *Carcinogenic and endocrine disrupting effects of cigarette smoke and risk of breast cancer*. Lancet, 2002 Oct 5. 360(9339): p. 1044

³⁵ Sieri S., Krogh V., Muti P., Micheli A., Pala V., Crosignani P., Berrino F. *Fat and protein intake and subsequent breast cancer risk in postmenopausal women*. Nutr Cancer, 2002. 42(1): p. 10-7

³⁶ Voorrips L.E., Brants H.A., Kardinaal A.F., Hiddink G.J., van den Brandt P.A., Goldbohm R.A. *Intake of conjugated linoleic acid, fat, and other fatty acids in relation to postmenopausal breast cancer: the Netherlands Cohort Study on Diet and Cancer*. Am J Clin Nutr, 2002 Oct. 76(4): p. 873-82

³⁷ Mirick D.K., Davis S., Thomas D.B. *Antiperspirant use and risk of breast cancer*. J Natl Cancer Inst, 2002 Oct 16. 94(20): p. 1578-80

³⁸ Melbye M., Wohlfahrt J., Olsen J.H., Frisch M., Westergaard T., Helweg-Larsen K., Andersen P.K. *Induced abortion and risk of breast cancer*. Ugeskr Laeger, 1998 Aug 31. 160(36): p. 5178-82

³⁹ Hoshaw S.J., Klein P.J., Clark B.D., Cook R.R., Perkins L.L. *Breast implants and cancer: causation, delayed detection, and survival*. Plast Reconstr Surg, 2001 May. 107(6): p. 1393-407