



Susan

I am as emotionally sound as any woman nearing forty can be with a tragedy rearranging her life. Just the other day while I was taking a shower I found a small lump. I had minor surgery to remove the tumor. My doctor has told me that I have breast cancer and must have a mastectomy. Now I have so many worries. Maybe last year I could have taken this news better, but I've just been married again and my future was looking so promising. My older daughter will be fine, but can I hope to live long enough to see my ten-year-old graduate from high school?

I've had friends with cancer and they did not do well. The treatments they were given seemed to do more harm to them than the cancer, until their last days. I've read so many things lately about new ways to treat cancer and that there are many controversies among doctors about the best treatments. Certainly I need to know more about what is wrong with me and what I can do to pick up the pieces.

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CANCER

From what I've told you do you think I should go ahead with a mastectomy?

That depends on what your goals are. If you don't want to defy and offend your doctor or worry your well-meaning friends and relatives, then do what almost everybody does. Have your breast amputated.

If you want to enjoy a healthier life and possibly a longer one, then you need to learn a lot more about your problem and begin making informed decisions. If you don't know much about breast cancer, now is the time to ask questions, not later after you've been through the surgery and the other treatments that will be prescribed "in your best interest."

Why me? How did I get cancer? I can't recall hurting myself.

Yours is a common reaction.¹ But breast cancer does not result from injuring your breast. A sharp or blunt object striking your breast causes no trouble other than the obvious damage from the blow. Scientific evidence is becoming convincing that the actual abuse that led to this cancer was inflicted by way of your knife and fork at the dinner table.

Both men and women eat the same kinds of food. Why does breast cancer affect women most of the time and men only rarely?

Breast tissues are responsive to female hormones, called by the general name of estrogens. The more estrogen a woman produces to stimulate her

breast tissues, the more likely it is that cancer will develop. This association of cancer with female hormones is inescapable when you consider that breast cancer is 100 times more common in women than in men.² The disease occurs only after puberty, and a longer menstrual life means a greater probability of developing breast cancer. Furthermore, if a woman takes estrogen pills the likelihood of developing breast cancer is increased.³ In women whose ovaries are removed early in life, the risk of developing breast cancer is greatly reduced. This cancer is almost unknown in women who never develop ovarian function.² Also, the amount of estrogen in a woman's body will influence the rate of growth of an established breast cancer.² Therefore, estrogens appear to be involved closely with the cause and development of breast cancer.

How can something in my diet affect the estrogens in my body and cause breast cancer?

Consider that each day the average woman consumes somewhere between one and four pounds of food. Nutrients and other substances are absorbed through the intestinal wall into the bloodstream and travel to all parts of the body, including the breast tissues. One source of estrogens can be the hormones that are fed to poultry and beef to make them grow faster. In some foreign countries, where the use of food additives is not regulated carefully by the government, significant amounts of estrogen residue can remain in the foods and have dramatic effects on people who eat them. In Puerto Rico and Italy, for example, there are cases where very young boys and girls have developed breasts, and little girls have started their menstrual periods much too early because of hormones in the meats they've been fed.^{4,5} Presumably, levels of hormones in poultry and beef raised in the United States are more closely watched. In the American diet, hormone residues in animal products are unlikely sources of increased estrogens.

What is the reason for high estrogens in women in the United States?

In affluent countries like the United States, the biological link between food and diseases of the breast is formed during the metabolism of naturally produced hormones in the human intestine. Estrogens are produced by the ovaries, adrenal glands, and certain other body tissues. After circulating throughout the body, eventually these estrogens are excreted by way of the liver into the intestine. In this process, the estrogens must be combined with another nonabsorbable substance that is produced by the liver and then eliminated in that "complexed" form. If they are not complexed, free estrogens would be reabsorbed into the body through the intestinal wall.^{6,7}

Fats in foods encourage certain species of bacteria to grow in the colon. These bacteria have the special ability to split the complex molecule formed by the estrogens and the substance from the liver. As a result, the excreted estrogens are freed and are readily absorbed back into the body. The long-term result is higher levels of these powerful hormones in women who eat foods rich in fats, which, of course, is the typical diet consumed by people in affluent societies.⁸

Another reason for higher estrogen levels is obesity. Being overweight is a common consequence of a high-fat diet centered around dairy and meat products and foods that are processed in oils. The body's fat converts male hormones, generally called *androgens*, and naturally present to some degree in women, into more estrogens.⁹ The more body fat a person has, the more estrogen her body will produce. Also, as women grow older their bodies become more efficient at the conversion of androgens into estrogens; because of this conversion, estrogen levels increase from this source with age.¹⁰

How are estrogens involved in cancer?

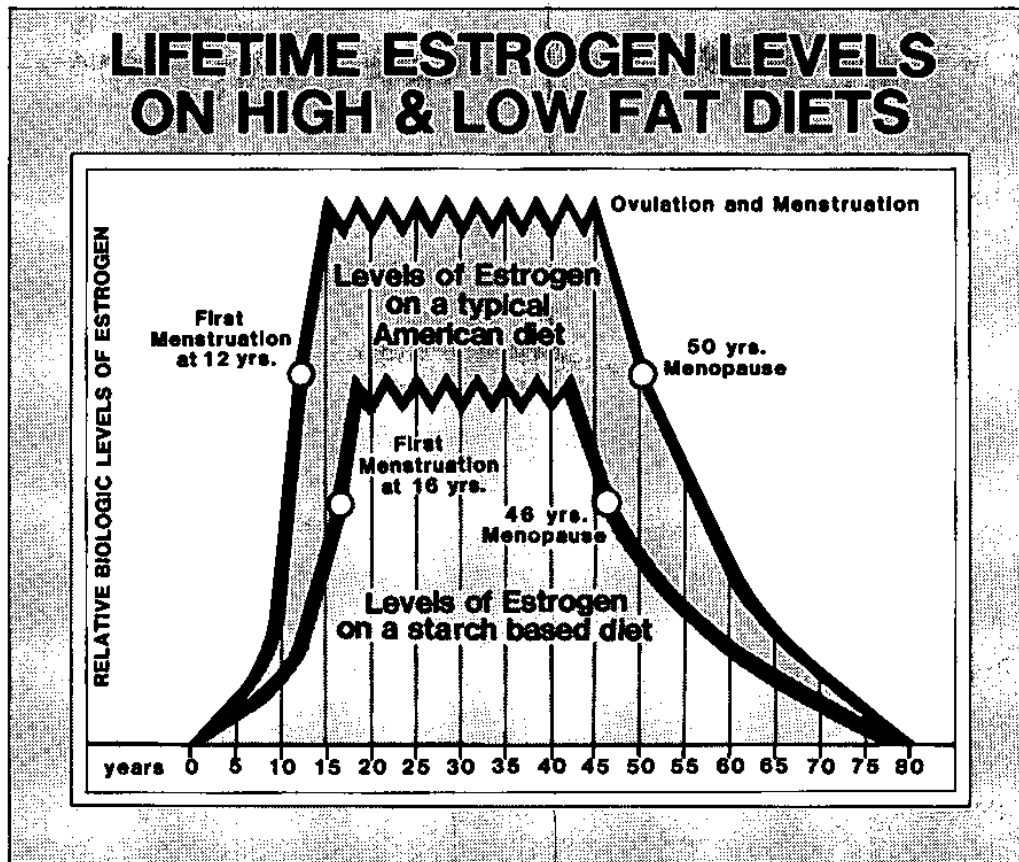
Excess amounts of certain kinds of estrogens will overstimulate the growth and activity of hormone-responsive tissues such as those found in the breast. By some mechanism still undetermined, this continuous stimulation contributes to the cancerous changes that eventually give rise to a tumor. The kinds of estrogens that are believed to be involved in the cause of cancer are called *estrone* and *estradiol*. A third kind called *estriol* is believed to be somewhat protective against cancer.¹¹

Then most women must be at risk, because we all eat basically the same diet. How common is breast cancer?

Breast cancer is the single most common form of cancer found in women who are middle-aged and older. Approximately one out of ten women living in affluent countries will develop this disease. At the present time in the United States 120,000 new cases are recognized annually, and the numbers are increasing.¹²

What happens in countries where women eat low-fat diets and stay trim? Do they get breast cancer less often?

Bacteria living in the colons of people on low-fat, high-fiber diets centered around starches convert very little excreted estrogen into the absorbable form, and as a result more of this hormone is eliminated from the body.⁶ The higher quantity of fiber in a vegetable-based diet may also



Levels of certain powerful estrogens are 50 percent greater during the reproductive years when women consume a high-fat (typical American) diet compared to women on a low-fat (starch-based) diet.¹⁴ The first menstruation begins four years earlier and menopause starts four years later for women following a high-fat diet.^{15,16}

act as a kind of barrier to reabsorption of estrogens.⁷ Obesity is rare among women following a starch-based meal plan. As a result, women living in societies where the diet is low in fats and animal products have lower levels of cancer-related estrogens and lower rates of breast cancer.^{8,13}

A comparison of vegetarian women with women who eat meat revealed a lower intake of fats in the diets of vegetarians. Vegetarian women excreted two to three times more estrogen in their feces than did nonvegetarians.¹⁴ Also, the level of cancer-related estrogens in the blood of the meat-eating women was 50 percent higher than in vegetarians.¹⁴

Young girls raised on a high-fat diet start their first menstruation approximately four years earlier than those girls following a low-fat starch-based meal plan—twelve versus sixteen years.¹⁵ A similar effect of lengthening the menstrual life of a woman occurs at the end of her reproductive years.

Menopause begins approximately four years later for those women on a high-fat diet, compared to those on low-fat diets—fifty versus forty-six years.¹⁶ This increase in the years of menstruation are the result of the effects of the additional estrogens in a younger and older woman's body caused by the fat in her diet.^{17,18} Early onset of menstruation and late menopause are each associated with approximately twice as high a risk of developing breast cancer as compared to women with a shorter menstrual life.^{19,20}

I wish I had known how important fat and estrogens were before I got cancer. Will this information be of any help to me now?

Yes. You must understand the control you can have over your body's estrogen levels because of their importance in your treatment. We will talk about this later.

There is another important reason for you to know about the causal relationship of diet and breast cancer: mother teaches her daughters how to cook and what foods to like. Studies show that because you have developed breast cancer at an early age, your daughters have almost twice the usual risk of developing breast cancer.^{21,22} The risk for daughters, and also sisters, of women with breast cancer developing this disease, themselves, can be as great as 50 percent under certain circumstances.²¹⁻²³ Some of this increased risk may be from a genetic tendency to be more susceptible to this cancer. More likely, most of this greater risk for breast cancer, as well as many other "family" diseases, is passed along to children through the education they receive in the home while growing up.

Since I'm younger than most women who get breast cancer, is there anything special I should know?

Many investigators believe that younger women with breast cancer have a much worse chance of surviving than older women. However, when all factors are considered, the fact that you are young is not necessarily associated with a worse outcome.²⁴ Approximately 20 percent of women with breast cancer are diagnosed before menopause and the other 80 percent are postmenopausal when the cancer is discovered.²⁵

Some women in the reproductive age group may wonder how a pregnancy might affect their life and their cancer. Hormone levels do change considerably during pregnancy, and therefore a change in the growth of the cancer might be anticipated. Fortunately, all the changes that occur during pregnancy and lactation do not adversely affect the survival of the mother.²⁶ Termination of pregnancy, although it is recommended by some physicians, does not alter the outcome for the patient.²⁶ Radiation and chemotherapy, however,

can have a serious adverse effect on the unborn baby. A woman with breast cancer must realize that her life expectancy probably will be shortened before she accepts the additional responsibility of bearing more children.

We will discuss some other factors concerning diagnosis and treatment that are related to your age and reproductive status later.

I've had lumps in my breast most of my life that doctors always called fibrocystic disease. Could one of these have turned into cancer?

Fibrocystic disease of the breast is characterized by lumps and bumps and tenderness especially when your estrogen levels are high just prior to your period. At least 50 percent of women in our country have these breast changes during their reproductive years.²⁷ Fibrocystic disease is believed to be the result of stimulation of the breasts by estrogens along with varying cyclic stimulation with other female hormones.²⁸ Some studies have indicated that women with fibrocystic disease have about three times the risk of developing breast cancer.²⁹ This should not be too surprising since estrogen stimulation of the breast seems to be involved in the development of both conditions. A preliminary study has shown that changing to a low-fat diet not only reduced the levels of estrogen, and other breast-stimulating hormones in women with fibrocystic disease, but has also improved the breast pain associated with the condition in all of the women studied.³⁰

Other dietary causes of fibrocystic breast disease have been suggested. Caffeine and related chemicals will stimulate the breast tissues and are believed to account for some cases of this disease.^{31,32} Reports indicate marked improvement in the painful breast tissues and resolution of lumps after removal of these stimulating chemicals for many women with this disease.^{31,32}

Fortunately, of all the biopsies performed on suspicious lumps approximately 75 percent are found to be fibrocystic disease and other noncancerous tumors.³³ The other 25 percent of the time the news is not so good.

It has always been hard for me to tell which lumps I should worry about. However, this one did feel distinctly different. Do you think a yearly mammography would have discovered the cancer early enough to make a difference for me?

Mammography can detect a tumor earlier than self examination can. Studies have found that women over the age of fifty benefit from periodic examinations with mammography; as much as a one-third decrease in death rate is gained in postmenopausal women who undergo screening with mammography.³⁴⁻³⁶ However, some questions concerning the usefulness of mammography still need to be answered: are lives actually being prolonged

by this screening technique, or are we simply finding the cancers earlier with mammography, and thereby many women only appear to live longer because of an earlier discovery?^{37,38} If, on the average, cancer is found a year earlier, and if, on the average, the patients then live a year longer from the time of diagnosis to death, the examination has really not had any beneficial effect. Recent studies have tried to resolve this problem of apparent versus real benefit for women screened with mammography.³⁴⁻³⁶ There now appears to be a real improvement in short- to intermediate-term survival for women over fifty years old. Still another unanswered question is related to the advantages suggested by this data. Do the improved survival rates seen in the initial studies of detection by mammography represent permanent cures for these women above the age of fifty, or do they represent only postponement of death from breast cancer?^{34,39}

You are in your late thirties; therefore, according to the results of these studies, you would not have benefited from mammography. The reason for the lack of benefit in women under fifty years of age is unknown. One theory proposes that the difference may lie in the possibility that cancers of postmenopausal women may spread more slowly than those found in premenopausal women. Some older women may have their cancers detected and removed before significant spread has occurred.

These findings and the conclusions drawn from them are still preliminary, and changes in recommendations for mammography are likely; they will be based upon the results of ongoing studies.³⁷⁻³⁹ At present, most doctors recommend a first mammography for a woman sometime around forty, then yearly examinations after she reaches the age of fifty.^{40,41} Certain women who are at higher risk may be recommended for earlier and more frequent examinations. If a tumor is detected by this method, the treatment would be no different from the one for a tumor found, as yours was, by feeling for a lump.

Are mammograms dangerous?

The hazard from radiation is very small, but it is still present, even when proper equipment and technique are used. The human organ most sensitive to the cancer-causing effects of radiation is the female breast.⁴² It is even more sensitive than the bone marrow, the lung, and the thyroid gland. Studies done in various X-ray facilities have found that the dosage given for a mammogram can vary as much two hundred-fold with different techniques and equipment.⁴³ If a woman over fifty decides to have yearly mammographs, she should learn the necessary details about the X-ray department she chooses. She should ask about the age of the X-ray machine, whether or not the equipment was specifically designed for mammography,

the number of such studies the department does in a year, and the qualifications of its staff.

One of the biggest concerns about the routine use of mammography is the increased number of biopsies generated solely because of the screening that otherwise would not be done. Between five and ten biopsies turn out to be normal for every one that is cancerous.³⁷ The emotional and other costs of so many negative biopsies are far from trivial.

I had a mammograph taken just before my biopsy and it was normal. Does this happen often?

Mammographs miss 10 to 30 percent of cancers; therefore, a report that an X-ray is "normal," showing no suspect tumor, does not rule out cancer.^{38,44,45} Because of incorrect information from a mammography X-ray, the diagnosis of breast cancer can actually be delayed. For all kinds of cancer, the diagnosis is made only after microscopic examination of surgically removed tissues by a qualified pathologist. Therefore, worrisome lumps, in spite of a negative mammography, must be removed and examined microscopically for the presence of cancer cells.

One more concern is that some tumors found by mammography and classified as cancer never threatened the patients' lives, because actually they were not true cancers. When reviewed by another pathologist at a later date too many of these specimens receive a non-cancerous diagnosis.³⁷ In one study of 506 small tumors detected by mammography and removed, on later review, 66 were reinterpreted as non-cancerous and 22 others were reinterpreted as "borderline."⁴⁶ Extensive surgery when performed on these women was, of course, not justified.

Are better techniques available for finding cancer?

Another early detection method is thermography, which detects differences in the temperatures of the skin and underlying tissues. Cancerous tumors should show up hotter. The technique has no adverse effects. However, the results from screening programs have been very disappointing because so many cancers are missed, and therefore the technique is not considered acceptable for general screening.^{47,48} Ultrasound, using high-frequency sound waves, has been limited to the evaluation of breast masses and is not useable for screening.^{47,48}

Ninety percent of patients find lumps by themselves. The rest are found by doctors during routine physical examination.⁴⁹ Self-examination has been recommended for years as an effective means for early detection. Even though this technique is cheap, safe, and readily available, the evidence to date has not been convincing that routine breast self-examination saves lives through early detection.^{38,41}

Deciding which lumps are suspect and in need of further examination is often a difficult problem. A cancer in the breast is rarely painful. Cancers are usually very hard and irregular to the touch and are often attached to surrounding tissues. A lump that is not cancer more likely would be tender and soft and would roll freely under the fingers.³³ An experienced physician can increase the probability of a correct diagnosis and would not order biopsies unless he or she thought they were likely to be confirmed as cancer.

Screening programs also heighten cancerophobia in our society. Some of this fear is justified since a recent autopsy series on women older than 20 years, without a previous history of breast cancer, revealed that nearly 20 percent unknowingly had invasive breast cancer or premalignant lesions.⁵⁰ Fortunately, only 10 percent of women in Western societies develop obvious breast cancer in their lifetime.¹²

Do you think it is worthwhile for a woman to have mammography and self-examination?

Yes, routinely for women over fifty who consume the high-fat American diet. With the present general high risk that women in this country have for developing breast cancer, early detection techniques have potential benefits for the individual patient. One unquestionable advantage is that when a breast cancer is found by mammography or frequent self-examination, it is usually very small and therefore easily removed by a nondeforming lumpectomy; mastectomy can be avoided. As mentioned, early studies indicate that for women over fifty life appears to be prolonged when tumors are found by mammography. Women following a low-fat diet have a much lower risk of developing breast cancer, and therefore less potential for benefit from routine mammographs. Yearly mammography in these lower risk women is unlikely to be found justifiable by a cost-risk-benefit comparison.

The most serious problem I see with efforts directed toward early detection is that they divert health dollars away from preventing breast cancer. The cost for screening every woman over the age of fifty in this country with a single examination would be over 2.25 billion dollars each year at 75 dollars per mammogram.⁴⁰ The cost for each cancer found by mammography is very expensive: \$195,000 per cancer detected.³⁸

Currently, efforts are no longer placed on yearly chest X-rays to detect lung cancer early and thereby to reduce the number of deaths from that disease.⁴⁰ Instead, people are being taught to stop smoking. I believe that teaching women to follow a low-fat diet is a more sensible approach to preventing breast cancer deaths than annual mammography, and a better way to spend our limited health dollars. Certainly, eating a proper diet would have a far greater impact on the incidence of this disease, since

efforts toward early detection can do nothing but increase the number of tumors found. Can you imagine how much valuable information about health and its relationship to diet could be provided to the public with over 2 billion dollars a year? Women would benefit by a decreased incidence of breast cancer among those who followed a more sensible low-fat diet. In addition, most diseases that affect men, women, and children in this affluent society would be reduced in incidence when people accept this effective diet and make other healthful changes in their lifestyles. This all requires a national reeducation program and money to support it.

My other doctor said that because of some law he had to give me a brochure, which listed my options for treatment. His recommendation was a mastectomy. I think he said, "that's the only operation I do, take it or leave it."

Several states now have laws requiring physicians to give breast cancer patients information on options available, and a brochure is usually a part of the packet.

You have many options to choose from and you are the best qualified person to make these important decisions. After all, who has more to gain or lose from the treatments selected? I would like to tell you about the different therapies that are available. You can read more about them in the many articles found in university or medical libraries. Above all, take the time to consider your options and to think things through.

Is very much actually known about this disease?

This kind of tumor is one of the most accessible and easily diagnosed of all major forms of cancers. Breast cancer has been studied for centuries, and it was one of the first kinds of cancers that physicians tried to treat by surgical intervention. In America at the end of the nineteenth century, radical mastectomy was introduced by Dr. William Halsted of Johns Hopkins University Medical School.⁵¹

Incidentally, Dr. Halsted's operative reports describe breast cancers that measured 8 by 7 centimeters or about the size of an orange, as *small* cancers.⁵² Years ago many women delayed seeking medical attention until the tumor was quite large and the disease well advanced. Because of this delay the number of years from surgery until death were fewer than today when the tumors are brought to the doctor's attention much earlier. With more physical self-awareness, frequent breast self-examinations and the use of mammography, tumors found these days by women are often one centimeter or less—the size of a pea. Because the disease is now detected at a much earlier stage, women have many more years from the time of surgery until they die of their breast cancer.

What are my choices?

Since the introduction of radical surgery by Dr. Halsted more than ninety years ago, a number of surgical approaches have been devised to remove the tumor. In addition, radiation has been tried at different stages of therapy in hopes of improving the length and quality of life for women affected by this disease. The effectiveness of each method of treatment has been tested by many practitioners, and the results of their observations are available to doctors and patients who make the effort to study them.

This list presents a brief summary of several surgical procedures that have been used.

Biopsy: removal of a small piece of the suspected tumor for laboratory analysis.

Lumpectomy: removal of the entire tumor only, not adjoining tissues.

Partial or segmental mastectomy: removal of a large section of breast with tumor and surrounding tissues.

Simple mastectomy: removal of entire breast.

Modified radical mastectomy: removal of entire breast as well as adjacent lymph nodes in the axilla (armpit).

Radical mastectomy: removal of entire breast, lymph nodes in axilla and underlying chest muscles.

Extended radical mastectomy: removal of entire breast, lymph nodes in axilla, underlying chest muscle, and lymph nodes next to the sternum (breastbone).

I heard that many doctors consider the radical mastectomy as the best treatment.

The radical mastectomy has been used as the standard with which to compare other procedures. However, to date no significant advantage of one surgical approach over another has been found, as far as survival of the patient is concerned.^{38,53-71} A disappointing but well-researched conclusion for you to know is that, despite improved surgical techniques, advanced methods of radiotherapy, and the widespread use of chemotherapy, the death rate from breast cancer has not changed during the last seventy-five years.⁵³

I'm sorry to present you with such dismal facts, but you must be informed enough to make the decisions that will have profound effects on your life.

Do other doctors really understand that all these treatments are not prolonging lives?

Most of them do. Unfortunately, a few share with their patients a world of hopes and dreams. Actually, the lack of appreciable differences in the results from various methods has led to a fatalistic attitude in the medical profession regarding the effectiveness of surgery in treating breast cancer. C. Barber Mueller, head of the Department of Surgery of McMaster University in Ontario, analyzed data collected over nineteen years on 3558 women with breast cancer from the Cancer Registry at Syracuse, New York. He concluded that "age, stage, or type of growth, operative therapy, or time at risk do not determine the time of death or alter the 90 percent certainty that death will be due to cancer of the breast."⁶³ Long-term studies of patients, treated by the best therapies medical science had to offer, confirm that at least 75 percent of the women who are diagnosed as having breast cancer will die with evidence of active disease in their bodies.^{54,57,67,71} In other words, it is beyond denying that the treatments given have failed to cure these women. One startling finding is that twenty years after diagnosis, 80 percent of the women diagnosed as having breast cancer will be dead; 88 percent of these deaths will be due to breast cancer.⁷¹

Why don't surgery and radiation succeed in curing this cancer?

The use of extensive local therapies, such as mastectomies and radiation is based on the belief that breast cancer is a disease confined to the breast at the time of diagnosis and that removing the tumor in the breast will halt the disease.⁷² Failure to improve survival rates by treatments directed at the tumor in the breast indicates that this theory is wrong.

A review of the natural history of the disease will help you to understand why cancer of the breast is rarely curable, if ever, with present treatments.⁷³ Studies have shown that breast cancer begins with the change of a healthy cell into a malignant one.⁷³ This transformed cell then grows at a steady rate. The time one cell requires to divide into two cells is called the doubling time. The average doubling time for breast cancer cells is approximately 100 days. In other words, 100 days after the beginning of the cancer in one cell, two malignant cells are present in the breast; at 200 days, four such cells are lurking there; and after one year, twelve cells have formed. At this rate of *doubling*, in six years the cancer mass contains one million cells and is the size of the point of a pencil. A mass of this size is less than one millimeter in diameter and is undetectable by palpation or mammography.⁷³ In ten years, the mass is finally detectable, having grown to a size comparable

to the eraser of a common pencil. At that stage it consists of about one billion cells and is one centimeter in diameter.⁷³

It sounds like I don't have to rush back to the operating room, since I probably have had this cancer for ten years by now.

This information may sound very discouraging, but you must know these facts in order to avoid unnecessary treatments that can disfigure and otherwise harm you.

When the full course of the disease is followed from the start of the cancer to the death of the woman, 75 percent of the time during which the woman has been a victim of cancer neither she nor her physician has known that it exists.^{73,74} This fact, combined with the rarity of cure, leads to the conclusion that by the time the diagnosis is made, cells have already spread from the original tumor to other parts of the body.^{38,53-71} This is true in most, if not all, cases of breast cancer.

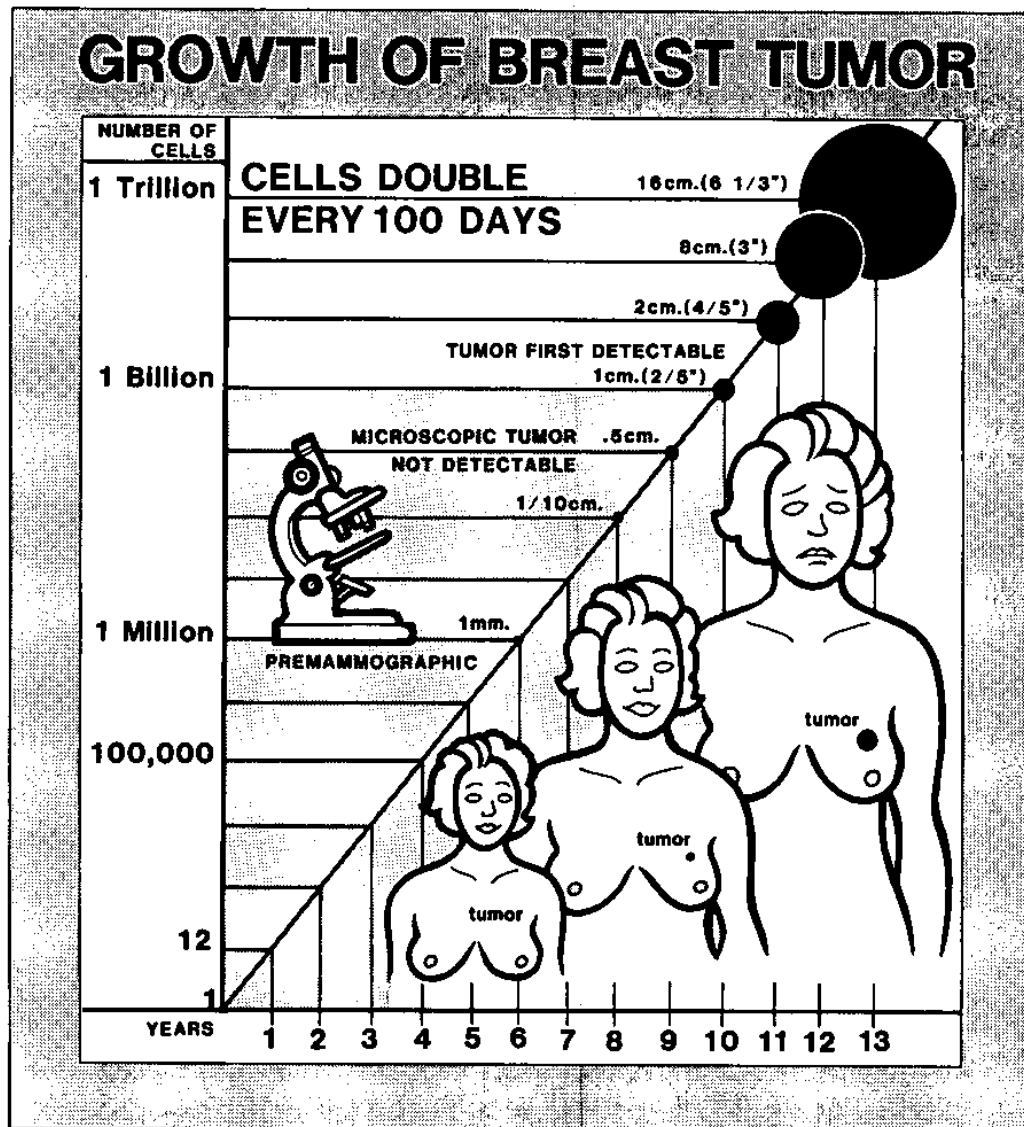
Studies show that before the tumor is discovered in the breast, when the cancer is still virtually microscopic in size, cancer cells are entering the bloodstream. At the time of a diagnostic lumpectomy, these cancer cells can be found in the circulating blood of women with breast cancer.⁷⁵ These cancer cells, distributed by the blood, eventually settle in healthy tissues, and there many develop new tumors.⁷⁶ The cancer cells from the original tumor in the breast that lodge and grow in other parts of the body are called *metastases*. These metastatic cancers also have the same average doubling time of 100 days.⁷³ They eventually grow in the victim's critical organs, replacing tissue in the brain, liver, and lung. Rarely, if ever, does a woman die as a direct result of the tumor growing in her breast.

Doctors have understood the natural history of breast cancer for more than thirty years.⁷⁴ Yet, little of this understanding is reflected in the surgical treatments that have been prescribed for women over the past three decades.

I never realized before that lumpectomy and mastectomy are equally effective because both treatments are usually too late to stop the spread of the cancer. After the lump was removed from my breast I had a chest X-ray, bone scan, and blood tests. My doctor told me the cancer hadn't spread. Can that be true?

These tests are not sensitive enough to detect small tumors.⁷⁷ A lump developing from a metastasis must be almost a centimeter in diameter for a bone scan or an X-ray to detect it. Such areas of metastatic cancer would have been growing for an average of ten years in order to reach that size.⁷³ When these metastatic cancers finally reach detectable sizes, they seem to have spread like wildfire, overnight. Actually, many small tumors have

This diagram will illustrate the growth of breast cancer:



Three-fourths of the time a woman has been a victim of breast cancer has been without her knowledge.^{73,74} Only during the final stages of this disease is the tumor detectable by any method. Unfortunately, by this time spread to other parts of the body has occurred in almost every case and the disease is incurable.⁷¹ Because most of the years of cancer growth are hidden at microscopic levels, efforts toward early detection are unlikely to ever yield much success in saving lives. Our precious health-care dollars would be better spent on efforts toward prevention, such as teaching a low-fat (starch-based) diet.

been busily doubling in size for years until they become detectable to the touch or to X-rays and bone scans. When metastatic lesions appear two years or so after a small breast tumor was found, the spread through the bloodstream probably occurred about two years after the original cell in the breast became cancerous, or eight years before diagnosis!

The most effective and least expensive tests to determine if metastases have occurred are a physical examination, chest X-ray and simple blood tests.⁷⁸ These should be routinely performed just after diagnosis of cancer, because this may influence the choice of therapy, especially if the cancer has spread extensively. Bone and liver scans, X-rays of the full skeleton, and examinations of the bone marrow for cancer should be reserved for specific indications.^{77,78} The value of any of these tests performed at routine intervals for follow up is questionable, since there is little effective therapy available for women when the tumor has been found to have spread. Therefore, in most cases, there is no reason for breast cancer victims to undergo routine testing to detect spread of cancer.⁷⁹ When symptoms appear, then appropriate examinations should be performed. There is value in contacting a physician regularly in order to detect any recurrence of the tumor in the affected breast or chest area and in the opposite breast. Frequent breast self-examination is valuable for detecting recurrences.

My previous doctor told me I must have my whole breast removed because other places in the same breast may also be cancerous.

He is right about the likelihood that other parts of your breast will be involved. The dietary factors, as well as other factors, that are involved in the cause of breast cancer affect all the breast tissues. Breast cancer, therefore, develops not just as a disease of the one detected site but as a disease that affects all breast tissues. The lump you found, the growth from one original cancer cell, is just more advanced than the other sites in your breast that are developing from a later starting time but at about the same rate of growth. After a mastectomy, when breast tissues outside the site of the actual tumor that was removed are examined microscopically, in most instances, these tissues too show evidence of cancer.⁸⁰ This is why surgeons often recommend a mastectomy, complete removal of the breast. Fortunately, these other and newer cancers grow to a size where they become detectable in only about 10 percent of women who, for one reason or another, do not have mastectomies or radiation to the breast.

Remember that breast cancer is a disease of all breast tissues. When the opposite breast is examined in women diagnosed as having breast cancer, in almost 100 percent of the cases various stages from precancerous changes to actual cancerous lumps are found there too.^{50,81} Therefore, the same

rationale your doctor gave you for a mastectomy, the probability of "satellite" tumors in the same breast, should also demand that all mastectomies be bilateral in order to remove all breast tissues that are involved with this disease. But a surgeon who suggested such madness would find few women paying for his or her skills. Fortunately, such new precancerous and cancerous sites in the opposite breast grow to problem sizes in only 10 percent of the cases.⁸²

There doesn't seem to be much hope for cure. How long can I expect to live?

Now we can start talking about information that is a little more encouraging. Although this may seem contrary to some of the pessimistic messages I have been giving you, most likely you will live a long time.

Studies of cases of breast cancer demonstrate that most women who have this disease live for many years after initial diagnosis. For example, half the women in your age group twenty-one to fifty are alive thirteen years after learning they had cancer.⁷¹ Many women live 30 years and longer after diagnosis.⁶⁵⁻⁶⁹ This should be your goal.

But I've heard that if you live for five years without recurrence you're cured.

Because the metastatic cancer cells are slow-growing and hidden in vital areas of the body, some people are fooled into believing that cure has been achieved by the initial surgery. Usually these microscopic tumors produce no symptoms until near the time of death. The largely silent nature of the disease, combined with the fact that in up to 90 percent of cases the ultimate cause of death will be cancer of the breast, shows why five-year survival rates don't represent anything close to a cure.^{63,71}

Medical professionals and representatives of cancer organizations who use such short-term survival statistics to support the success of present-day therapy are seriously misrepresenting to the public the actual course and outcome of breast cancer.^{38,83}

What is the minimum treatment? How little surgery is actually required for control of the cancer in the breast?

Many patients have been treated by a lumpectomy, a simple nondeforming procedure that removes all of the tumor with little disfigurement of the surrounding breast tissue. Survival rates are as good as those of more radical therapies used for removal of the tumor, such as mastectomy.^{60,61,84} One drawback to such limited surgery is that there is a greater risk of a recurrence of the cancer in the remaining breast tissues following a lump-

ectomy. The risk of this local recurrence is related more to the stage of development of the tumor at the time of diagnosis than to the skill of the surgeon. The later the stage at the time of diagnosis, the more likely will be a local recurrence.^{85,86}

These recurrences in the breast that originally held the tumor are usually the result of metastatic cancer cells that have spread through the blood vessels and lymphatics to the skin and other breast tissues long before the discovery of the original lump.⁸⁵ Sometimes recurrence is because the surgeon performed an inadequate resection of the original tumor and left parts behind.⁶¹ When the pathologist examines the specimen, the margins are checked and the pathologist's report tells if they are free of cancer cells. If the surgery was incomplete the surgeon can easily perform a slightly wider excision to include all of the cancer, and this must be done before the treatment is considered adequate.

These recurrences, if they do happen because of tumor cell spread or inadequate resection, are easily treated with further surgery or radiation.^{87,88} Conservative surgery avoids treating everyone with extensive methods when, in reality, only a few will need a mastectomy or supplementary radiation therapy. Just remember, you will not sacrifice survival time later by choosing minimal surgery now.^{38,60,61,84}

If all the cancerous tumor is removed by any procedure, in the case where spread has not already occurred, than even the simplest treatment of a lumpectomy has "cured" the patient. On the other hand, no amount of aggressive treatment to the affected breast will change the course of breast cancer that has already spread. All of the alternative surgeries offered today by surgeons, from simple lumpectomy to extended radical mastectomy, do one thing only: remove the tumor from the chest! Radiation therapy can do no more.

Doctors have been questioning the need for extensive surgery for breast cancer for many years. In 1951, a thorough review article on breast cancer treatment was written in a widely read medical journal. The authors concluded that the evidence strongly suggests that treatment is quite ineffectual in reducing the incidence of death from metastatic breast cancer.⁸⁹ They further suggested that minimal surgery was as effective as the more extensive procedures for treatment of localized breast cancer. Over the last three decades there has been too little change in the direction recommended by these pioneers in breast cancer surgery.

Removal of the cancerous mass in the breast is certainly necessary. Otherwise, the tumor may grow into an unsightly mess, eventually breaking through the skin, developing into a draining, ulcerated condition, which is difficult to care for.

I understand now that regardless of the kind of surgery I choose to remove the lump, it will not prolong my life. There must be other things I should consider?

Because no procedure has been convincingly shown to offer an advantage over others as far as survival, secondary considerations should guide you. Your physical appearance, as well as the mental, emotional, and physical suffering associated with the therapy, not to mention its cost, should help you to choose the best course of therapy for you.

Loss of function and swelling of the arm on the affected side are complications that occasionally follow the more extensive forms of surgery. The dangers from general anesthesia and postoperative complications are risks inherent in any kind of major surgery. With extensive surgery the cost is measured in the thousands of dollars, compared with a few hundred dollars for a minor lumpectomy performed on you as an outpatient with only local anesthesia. However, the most important issue is this: For most women, removal of the breast is an unnecessary form of mutilation that can destroy self-esteem and sexual identity and often results in severe psychological depression.⁹⁰ Every day physicians and patients are recognizing that the less surgery a woman receives in order to remove the obvious tumor, the better off she will be in every respect.^{38,86,91}

Is a lumpectomy with radiation a good treatment to choose for me?

Just at the time in medical history when the use of X-ray treatment after a mastectomy has been almost discarded, the use of X-ray in the treatment of breast cancer has found a new role. More popular every day is combined therapy using a nondeforming lumpectomy and radiation. Radiation is given over a six-week period beginning soon after surgery. This combined approach achieves survival rates and risks of local recurrence that are comparable to those obtained with mastectomy.⁹² The use of combined radiation and lumpectomy was recommended as adequate treatment of breast cancer in 1954.⁹³ More than thirty years have passed since this recommendation, yet today only a small minority of women are offered this therapy, which is much less deforming than any form of mastectomy. Occasionally, radiation is used as the only form of therapy after a small portion of the tumor is removed for diagnosis.

Radiation is a treatment not to be taken lightly. Radiation therapy to the breast can have significant adverse side effects and possible disastrous complications that reduce immunity and maybe even chance of survival. Early complications include radiation sickness, depression, and loss of appetite. Later on, breast deformity, rib fractures, and inflammation of the lung can be real problems.^{92,94} In most cases, the breast keeps a reasonably

normal appearance, although often the deeper tissues are more firm to the touch, and the skin will be discolored and leathery.

Radiation has definite harmful effects on the immune system. Most studies done today show comparable survival rates between women treated with lumpectomy and radiation and those treated by mastectomy. However, the safety of radiation therapy must continue to be questioned because of earlier studies that demonstrate harmful effects of radiation on women who had mastectomies. Women receiving radiation after mastectomy have been shown to die sooner than those for whom this additional therapy was not prescribed.⁹⁵⁻⁹⁷ One review of the results of radiation therapy reports that in six controlled clinical trials, including more than 3400 patients, the decrease in survival ranged from 1 to 10 percent in irradiated patients, compared to those treated with mastectomy alone.⁹⁵ Women treated with lumpectomy and radiation have not had major surgery or blood transfusions, which also depress the immune system.⁹⁸⁻¹⁰⁰ This may be one reason that the harmful affects of radiation have not shown up in recent comparisons of lumpectomy and radiation with mastectomy which does include these two insults to the immune system function.

Certain kinds of white blood cells known as *lymphocytes* are important in the body's defense against cancer. Both the numbers and the activities of these cells are depressed after radiation to the chest in the treatment of breast cancer.^{101,102} There is evidence that this decreased immunity increases the risk of metastatic disease and thereby worsens survival rate.⁹⁵⁻⁹⁷

The routine use of postoperative irradiation in early breast cancer must seriously be questioned, even though there is an advantage of decreased local recurrences in the affected breast. Why subject every woman with breast cancer to the effects of radiation when only a few will benefit from it?

Is there ever a reason to do a mastectomy or radiation?

From what I said, you might think there is little reason to choose any therapy besides a lumpectomy. For some women, the thought of the tumor recurring after initial treatment of whatever kind is psychologically devastating. These women may choose more extensive treatment hoping to reduce the risk of recurrence in the breast or the muscles of the chest wall. After lumpectomy, local recurrences occur in about 15 to 25 percent of the cases; with mastectomies and lumpectomy with radiation therapy, the recurrence risk is about 10 percent.^{61,86,103} Remember, these recurrences are effectively treated at the time they occur with additional surgery or radiation.^{87,88}

In a very few cases the tumor is so large by the time the patient comes in for medical care that extensive procedures, such as a mastectomy and/

or extensive radiation, are the only way to remove all of the obvious cancer. Such a case is encountered in only a very small percentage of patients today. Sadly, many of these women have delayed seeking care only because of their very real fear of losing a breast, since most of them believe that mastectomy is the only therapy available.

I was also told that I must have surgery on the lymph nodes under my arm. I'm an artist and need full use of my right arm. Is that surgery really necessary?

Today women are subjected routinely to removal of a sample or all of the lymph nodes that drain a cancerous breast. Only by microscopic examination can physicians determine if those specimens are involved in the early stage of cancer. In about 50 percent of the cases so examined, enlarged nodes are found not to be cancerous. On the other hand, 25 percent of the time in cases in which no nodes can be felt, cancer is present when the nodes are examined microscopically.¹⁰⁴ Most of the surgeries performed on the lymph nodes today are only samplings rather than removal of all of the nodes, which was once done routinely when radical mastectomies were popular. This sampling method has been considered unreliable in predicting actual node involvement.¹⁰²

Some doctors have questioned the wisdom of removing the armpit, or axillary, lymph nodes from the affected side either by surgery or by destroying them with radiation.^{97,106-111} During the years when the Cleveland Clinic performed the more limited treatments of lumpectomy or simple mastectomy without radiation or removal of the axillary lymph nodes, the survival rates for women with breast cancer were better and the risk of local recurrence was surprisingly lower than they had been during the years when the clinic employed the more extensive treatments that destroyed the lymph nodes.⁹⁷

Animal experiments have shown that lymph nodes that drain the area of a cancerous breast play important roles in the body's defenses against spread of the cancer.⁹⁷ Further investigations have shown that in laboratory experiments the lymph nodes in breast cancer patients exhibit a definite activity against cancer cells taken from the breast tumor.¹¹¹ The hypothesis suggests that the lymph nodes that drain the affected breast produce white blood cells, lymphocytes, that circulate through out the body and are able to destroy cancer cells that have metastasized.

Current evidence does question the wisdom of removing or otherwise destroying the lymph nodes, even though a definite detrimental effect has not been established. It is certain, however, that removing lymph nodes already showing the presence of cancer cells does not benefit the patient by decreasing the chances that the cancer will spread or by increasing the length of survival for a cancer victim.^{38,62}

There must be reasons why so many doctors are recommending this additional surgery. What would I gain from having the lymph nodes under my arm removed?

The primary reason why doctors remove the axillary nodes is to determine whether or not a woman would receive any benefit from chemotherapy.⁵⁴ The number of nodes that have become cancerous by the time of surgery has been used to predict the likelihood of a favorable response from the use of “cancer-killing” drugs, or *chemotherapy*, which are administered for a period of time following surgery.

If you decide that you will not take chemotherapy after surgery because of the ineffectiveness and toxicity of this therapy, then there is very little need to know if your nodes are involved.

Another reason for performing surgical removal of the lymph nodes is to determine the stage that the disease has reached and the patient's chance of surviving a certain number of years. When no nodes are involved, the five-year survival rate is about 80 percent; with involvement of axillary nodes the survival rate drops to about 50 percent.⁵⁴ Ten years after the diagnosis the survival rate in patients without initial node involvement drops to 65 percent and in women with involvement of nodes it drops to about 25 percent.⁵⁴ Approximately 50 percent of women operated on for breast cancer are in the early stages of disease where the lymph nodes are free of cancer. The other 50 percent at the time of initial surgery, have “positive nodes” or even more advanced distribution of obvious cancer cells spread throughout the rest of the body.³⁴

Even though involvement of the lymph nodes generally indicates that the disease is in an advanced stage, many women who have reached this stage at the time of diagnosis live for twenty years or longer after their cancer is discovered. In one study of women who lived for more than twenty years, the lymph nodes of 35 percent were cancerous at the time of initial diagnosis.¹¹² Therefore, prediction for the probability of survival in cases with lymph node involvement cannot be relied upon in individual cases. Predictions, I should emphasize, are based upon statistics; therefore, women who are aware of lymph node involvement may worry unnecessarily, and for them pessimism may be unwarranted.

The issue of whether or not to remove axillary nodes is easily resolved by recognizing that few women will find that the knowledge of the stage their disease has reached is worth the risk and the cost of surgery. The possibility of side effects of continual pain and the cosmetic deformity of swelling and scarring of the arm, not to mention possible adverse effects on the immune system's fight against cancer cells, are additional reasons to refuse to submit to this surgery.

I'm wondering, what does a person do if the lymph nodes can be felt at the time the breast cancer is found?

Enlarged lymph nodes suspected of containing cancer cells have been reported to regress in size within three months after the removal of the cancer in the breast in 75 percent of patients with breast cancer and enlarged lymph nodes.¹¹³ Some of these nodes probably contained cancer, however most of the nodes were enlarged only as the result of a reaction from the tumor in the breast. This observation of node regression eliminates another reason some doctors give for radiation or removal of the affected axillary nodes. If the lymph nodes should grow and become uncomfortable or unsightly, then they can be treated by radiation or surgery without sacrificing survival time.^{38,62,87,88}

Please tell me more about chemotherapy. Shouldn't I take these drugs to kill the cells that have already spread?

The obvious failure of locally directed therapies such as surgery and radiation to improve survival by "catching" the cancer before it has spread has led to the practice of administering chemotherapeutic agents during surgery and for variable periods of time afterward. This approach, called *adjuvant* chemotherapy, is regarded as an enhancer of surgical and radiation therapies. The chemical agents administered to the patients are supposed to inhibit or kill cancer cells that have already spread throughout the body. The drugs chosen for these purposes are toxic to cancer cells that are grown in tissue cultures or in animal models. A second criterion for these agents is they must affect the cancer before they kill the patient.

In the United States, adjuvant chemotherapy was accepted with enthusiasm by most physicians at first, in part out of the desperation surrounding the failure of previous therapies to prolong the lives of breast cancer victims. The initial enthusiasm, induced by early findings of improved survival rates in all women for the first two years after surgery, was quickly tempered by results three to five years after therapy. In one widely publicized long-term study performed by proponents of chemotherapy, the advantage to survival dwindled after five years to 4 percent over those patients who did not receive chemotherapy.¹¹⁴ When separated into groups, premenopausal women had a 12 percent survival advantage, and women who were past menopause had a 5 percent decrease in chances of survival compared with those who did not take the therapy.¹¹⁵

A recent study in England concerning the effectiveness of adjuvant chemotherapy failed to show any advantage in survival rates, even for the premenopausal group.¹¹⁶ The authors of this study have asked the medical

community to weigh more carefully the benefits of chemical agents against their toxicity before recommending widespread use of postoperative chemotherapy. Effects of psychological and physical toxicity are considerable, as more than half the patients reported feeling anxious or depressed, and virtually all were found to suffer from physical illness, and interference with blood cell production from the bone marrow was common.¹¹⁶

I've heard that chemotherapy has terrible side effects. What can I expect?

The side effects of adjuvant chemotherapy are unpleasant, to put it mildly. In fact, they are so severe that 79 percent of the women treated reported that they were disturbing enough to interfere with their lifestyle and 29 percent declared that never again would they submit to the experience.¹¹⁷ Many women, if not most, stop taking chemotherapy before the course of injections and pills is finished, because of the drugs' serious adverse effects.¹¹⁵ These include hair loss, nausea, loss of nerve function, depressed blood cell counts causing anemia and allowing infections, diarrhea, cystitis, vomiting, and oral ulcers. The drugs used in chemotherapy depress the immune system and decrease the body's ability to fight off microbial infection and to defend itself against cancer.¹¹⁸ Progressive growth of the breast cancer, and the formation of new cancers, are real possibilities because of this experimental therapy.^{118,119} Viral infections are twice as common in women while taking adjuvant chemotherapy for breast cancer.¹²⁰

Giving chemotherapy to women routinely after surgery subjects all women to the powerful toxic effects of these drugs. Evidence indicates that even the small improvement in survival rates that is seen in selected women who receive adjuvant chemotherapy can be obtained as effectively when chemotherapy is reserved until the time when the cancer recurs.¹²¹ If chemotherapy has any significant advantage for survival, withholding these powerful drugs for use only in the late stage of the disease will spare many women needless suffering.

Since the benefit of adjuvant chemotherapy is seriously questioned and its toxicity to the body is definite, this kind of experimentation should be reserved for clinical investigative studies, sparing women until an effective therapy can be developed.^{116,118,121-126}

You are really saying that I'm better off doing as little as possible in the way of surgery, radiation, and chemotherapy. I just want to live as long as possible.

The burden of proving the benefits of a procedure rests on those physicians who recommend these mutilating and dangerous treatments. Considering

our present state of knowledge, we should reserve extensive surgery, radiation, and chemotherapy for women who develop recurrences, instead of subjecting all women with breast cancer to the mutilations, risks, and complications associated with these therapies. Every one of them, along with blood transfusions and the high-fat hospital diet, has been convincingly demonstrated or strongly suspected to decrease immunity and thereby may give the cancer an added advantage.^{95,97-100,110,118,127,128}

Here is a list of experiences that can happen to cancer patients while they're hospitalized, and may adversely affect their recovery from cancer:

**FACTORS THAT DEPRESS THE IMMUNE SYSTEM AND HAVE
BEEN SUSPECTED OF DECREASING SURVIVAL BY
LOWERING THE BODY'S DEFENSE AGAINST CANCER:**

Major surgery
Blood transfusions
Radiation
Chemotherapy
Lymph node irradiation
Lymph node removal
High-fat diet

Why add insult to injury? Because of the evidence obtained during the last ninety years of scientific observations on the treatment of breast cancer, every health practitioner and cancer patient must ask what advantage can really be gained by any or all of the alternative surgeries, radiation therapies, and chemotherapies that are being prescribed for breast cancer victims.

Would cutting down on my body's estrogen production by removing my ovaries be of any help?

Removing the ovaries, which produce estrogen, or the pituitary gland, which controls the ovaries, by surgery or radiation is popular therapy for breast cancer in premenopausal women. With the subsequent decrease in estrogen production, tumor growth is slowed and some regression in size is seen. Stopping estrogen function can give dramatic relief of symptoms to some breast cancer victims. However, advantage to survival is small at best.¹²⁹ It is important to know that the same benefits are obtained when surgery is either done shortly after diagnosis of cancer or reserved for later

stages of the disease.¹³⁰ Waiting until later to remove ovarian function shortens the time a woman would have to suffer with menopausal symptoms and spares many women the need for major surgery or extensive radiation to remove the ovaries or pituitary gland altogether.

One interesting theory holds that the benefits from chemotherapy come solely from destruction of the ovarian function, specifically of estrogen production, by the chemotherapy agents. Most women cease menstruation soon after beginning chemotherapy. According to these investigators, the slight benefits in survival rates and slowed tumor growth that are seen following chemotherapy can be obtained by surgical or radiation therapies designed to reduce estrogen production.¹³¹ These direct approaches to lowering estrogen production avoid the long lasting and debilitating side effects of chemotherapy.

Can I take a drug that will lower the stimulating effects of estrogen in my body?

An antiestrogen drug called *tamoxifen* has shown a beneficial effect on breast cancer. Tumors will decrease in size in patients taking this drug, and the survival time of women with metastatic disease may be lengthened somewhat.¹³²⁻¹³⁴ Recent studies even suggest that prolonged survival and delayed recurrence of disease may be achieved when tamoxifen is given for a couple of years after initial surgery, before any sign of spread.¹³⁵⁻¹³⁷ In other words, tamoxifen appears to be of value as an adjuvant therapy in a few studies.

The real advantage to this hormone approach is that the results are as good as those obtained with any of the more toxic adjuvant chemotherapy programs, and the adverse side effects are much less.¹³⁵ Only 2 percent of women stop taking the drug because of side effects; most of these are due to the decreased effects of the estrogens and are similar to the symptoms of menopause.¹³⁵ The most recent trial using tamoxifen as adjuvant therapy has demonstrated a 34 percent decrease in death rate after six years of study.¹³⁶ This most likely represents a prolongation of life and not a cure. You must understand that when disease has spread to other parts of the body, no hormone therapy or chemotherapy will cure the patient.¹³⁸

My other doctor told me my tumor was estrogen-receptor-positive. Does this mean that tamoxifen will work any better?

There are sites on the inside of breast cancer cells to which the estrogen attaches. These sites are called receptors. Molecules of tamoxifen will also attach to these same sites and block the activity of the estrogens. These sites have been found to have some prognostic value; the more receptor

sites the tumor has, the better the prognosis and the more effective any antihormone therapy, like tamoxifen, is likely to be.¹³⁹ Breast cancer cells in premenopausal women usually have fewer estrogen receptors than cancer cells in postmenopausal women. In general, postmenopausal women and those with slow growing tumors respond better to all forms of hormone therapy, whether it is designed to diminish estrogen levels or even to add to them. Premenopausal women with fast growing cancers do not respond as well.⁵⁴ Contrary to what is expected, some encouraging results have been seen with adjuvant tamoxifen therapy even in women with low levels of estrogen receptors on the inside of their cancer cells.¹³⁶

The biggest question on my mind is still this: How can I live longer?

The clinical course of breast cancer is highly variable. Some women will die soon after the lump in their breast is discovered, while others will survive twenty years or more in apparent good health, only to die eventually from their original cancer.⁶⁵⁻⁷⁰ Your goal is to be one of those women who live for many years. The course of breast cancer and, ultimately, the time of death are determined by the patient's ability to resist the aggressiveness of the tumor. This contest is commonly referred to as the *host versus tumor relationship*.⁶³

Present modes of treatment, including surgery, radiation, and chemotherapy, try to change this relationship with techniques aimed at removing or weakening the tumor. However, as we have discussed, many years of experience with these treatments have been generally disappointing and have left investigators wondering if any real progress has been made in the war against breast cancer.^{38,53-71}

Are you suggesting I try treatments that are designed to improve my defense system?

Many researchers are looking for ways to improve the cancer patient's natural immunity.⁵⁴ Agents that stimulate the immune system, such as *levamisole* and *BCG vaccine*, have produced mixed results. *Interferons* are proteins secreted by certain body cells which can be taken up by other cells rendering them resistant to infection with viruses. These proteins are synthesized in a laboratory and then given to patients with a variety of diseases. Interferon has been used experimentally in cancer patients and regression of breast cancer nodules has been seen with interferon.¹⁴⁰ To date, however, the overall results have shown only limited promise. Another possibly useful, but still experimental, approach to fighting the cancer is to induce an *artificial fever*, either by administering bacterial toxins that cause a rise in body temperature or by employing techniques, called *hyperthermia*, that heat the body internally or externally.¹⁴¹

So what else can I do to increase my strength to fight the tumor?

Compared to the efforts that physicians have made in attempting to destroy the cancer, very little attention has been given to the possibility of strengthening the host defenses. However, nutritional factors have long been recognized as important in affecting our ability to resist disease and to recover from illness.¹⁴²

Dietary advice about preventing cancer was proposed by the Senate Select Committee on Nutrition and Human Needs in 1977, the National Cancer Institute in 1979, the National Academy of Sciences in 1982, and the American Cancer Society in 1984.¹⁴³⁻¹⁴⁶ These organizations agree that we should cut down our intake of meat, dairy products, and fats from all sources and that we should increase grains, fresh fruits and vegetables in our diets.

I'm afraid it's a little late for me to worry about prevention. Do you really believe that by adopting a certain diet I can make a difference even after the disease has started?

Many knowledgeable people believe that our rich American diet is involved as an important factor in the cause of breast cancer. Logically, then, we should stop adding fuel to the fire and apply the dietary advice for preventing breast cancer to those unfortunate women who already have become victims of this disease. By changing from the rich diet that promotes breast cancer to a diet that best supports good health, further growth of cancer could be slowed and the woman's life would be prolonged.

I certainly could use a fresh approach to my cancer. If I do change my diet now, how can I know if I'm getting any better?

Several observations have been made on factors related to the rate of progress of breast cancer. Four of these factors, obesity, cholesterol, estrogen and prolactin, are associated with a poorer prognosis.¹⁴⁷⁻¹⁵⁰ Overweight women with high levels of cholesterol live for less than half the five-year survival rates compared with slimmer women who have low levels of cholesterol.¹⁴⁷ Reducing the levels of the hormones estrogen and prolactin by means of drugs or surgery can retard the growth of established breast cancer and cause regression of tumors.¹⁵¹ Of particular importance to you is the recognition that these four prognostic factors are a direct consequence of your nutrient intake; therefore, they may be altered by a conscious and consistent change in diet.

In affluent Western societies where the incidence of breast cancer is high, diets are typically rich in fat and cholesterol, and low in fiber content,

and obesity is a common consequence.¹⁴⁶ People eating such diets have levels of cholesterol, estrogen and prolactin that are higher than the levels produced by the diets of underdeveloped countries, where breast cancer is much less common.^{8,152,153} Investigators have found that when starch-centered diets, low in fat and cholesterol and high in fiber, are fed to volunteers, weight reduction occurs and the levels of cholesterol, estrogen, and prolactin in the blood are reduced.^{18,153-156} When postmenopausal women with breast cancer were fed a starch-centered meal plan, similar favorable reductions were observed.¹⁵⁷

You can easily and inexpensively check on your weight and cholesterol level to determine if you are making progress toward better health. Tests for estrogen and prolactin levels are expensive and more difficult to obtain; with a lower-fat diet, these will likely decrease. I would recommend that you not depend on these tests and only check your weight and cholesterol periodically.

If I do change my diet do you think the cancer will actually grow slower?

Factors that cause cancer are also believed to encourage its growth. For example, patients with a form of lung cancer caused by cigarettes live longer if they quit smoking than those who continue the habit.¹⁵⁸ Animal studies show that fats and oils promote the growth of tumors and that animals receiving a diet with higher cholesterol show more frequent occurrence of tumors and metastases.¹⁵⁹⁻¹⁶¹ Several investigators have observed that women with breast cancer who live in countries where low-fat diets are followed survive longer, with less progression of their disease, than do women on higher fat diets.¹⁶²⁻¹⁶⁴ For example, the five-year survival rate for breast cancer patients in Japan is 74.9 percent as compared with 57.3 percent for breast cancer patients in Boston.¹⁶² Japanese women have a considerably lower fat intake in their diets.¹⁶⁵

How strict do I need to be with my diet?

How strictly you follow my recommendations is something you must decide. I will tell you what I believe is best. Victims of breast cancer, as well as women wanting to prevent that kind of cancer, should adopt the best diet designed for maintaining the body's health and healing processes. This health-supporting diet is low in fats of all kinds, is high in fiber, and contains no cholesterol. Like the diet eaten in societies where breast cancer is rare, this diet is centered around a variety of delicious starches, such as rice, potatoes, sweet potatoes, corn, breads and pasta, along with all the fresh or frozen vegetables and fruits you may want to eat.¹⁶⁶

Do you have any proof this will help me?

Proof is a very difficult thing to provide, but the evidence is very convincing that a diet change will help you. I regard the benefits from changes in diet and lifestyle not from the point of view of cure but as improvements in the quality and possibly length of life for the cancer victim. Could five years expected survival time be lengthened to seven, ten or even fifteen by improving the health of the host? Studies still to be done will tell us how valuable a dietary change will actually be for women with breast cancer. The National Cancer Institutes have ten year studies in progress that will provide evidence on the effects of a lower-fat diet on women with a diagnosis of breast cancer.¹⁶⁷ At the present time no harm can come from trying. Even though much further study in this subject is needed, the probable advantages to be gained from this approach should persuade women with breast cancer to adopt a healthier diet immediately. These recommendations are free of adverse effects and of the expenses that are common to most other forms of medical therapy. In addition, a starch-centered diet has been found to improve health in many ways, from loss of weight and relief of constipation to lowering blood pressure and blood sugar levels.¹⁶⁶ Without question, women with breast cancer have every reason to maintain the best level of health they can possibly achieve.

Has anyone ever been cured once cancer has spread throughout her body?

A woman with breast cancer must never give up hope. We know about very rare but documented cases of women with metastatic breast cancer spreading throughout their bodies who have experienced spontaneous regression, or disappearance of the cancer for reasons unknown.^{168,169} These cures in the face of almost hopeless odds demonstrate that the body has the potential to win its battles, and possibly the war, with cancer. Common sense would declare that a body in good health will have a better chance than one that is ill. Therefore, a victim of breast cancer should make every effort to eat correctly and to support her general health in every possible way.

Are any other cancers similar to breast cancer in the way they get started and their resistance to treatment?

Most cancers that are found as a solid mass have similar characteristics. These include cancer of the prostate, ovary, lung, kidney, pancreas, liver, gallbladder, esophagus, stomach, and colon. Although they may have different environmental causes, they are all advanced by the time of diagnosis and survival is affected little, if at all, by various forms of therapy.¹⁷⁰

Colon cancer, which affects between twenty and thirty percent of the families in the United States, for example, is thought to be caused by the foods we eat; in particular the high-fat, high-cholesterol, low-fiber diet consumed by most Americans.^{143-146,171} Efforts to prolong survival by detecting colon cancer earlier through finding minute quantities of blood in the stool have been largely disappointing.^{172,173} In almost all cases the disease is far advanced by the time of discovery.¹⁷⁴ Cancer cells can be found in the blood of the veins draining from the tumor even in stages of colon cancer that are considered early.¹⁷⁵ As with most other cancers, cells that spread long before the cancer is discovered cause the metastases that kill their victim.

Long-term survival rates are very poor and actually worse than those for breast cancer at five and ten years, possibly because the detection is more difficult and tumors are found at a more advanced stage of growth.^{174,176-179} Treatment appears to have little effect on the ultimate survival.¹⁷⁶⁻¹⁸⁰ Because of lack of appreciable improvement in survival from extensive surgery, more conservative therapy is being used. For example, cancer of the very last part of the large intestine, the rectum, has been traditionally treated with an extensive surgery called an *abdominoperineal resection* which often employs two surgical teams, one working above and the other below, to remove the cancer. Recently, treatment by simply burning off the cancer with an electrocautery has been found to be as effective with even better survival rates than from extensive surgery.¹⁸¹

Polyps of the colon are found more commonly in populations with a high incidence of colon cancer, and both diseases are suspected of sharing the same dietary cause.¹⁸² Polyps often precede the development of colon cancer and the polyp may actually become the site of the cancer with time.¹⁸³ The interval between the appearance of a polyp and progression to cancer has been reported to be as long as fifteen years, which suggests a slow rate of change to cancer.¹⁸³ Early detection and removal of polyps is believed to decrease the risk of colon cancer.¹⁸⁴ Operations that divert the flow of stool away from the segment of colon with polyps have resulted in regression of the polyps.^{185,186} This would suggest there is a stage in the transition toward the development of cancer of the colon that is reversible. Investigations should be done to determine if a low-fat, high-fiber diet—the diet opposite to the one believed to be the cause of colon polyps and cancer—would result in similar regression.

Colon cancer patients should seriously consider that a change in diet may be beneficial for them for the same reasons that a change in diet may help women with breast cancer. Furthermore, since the change does no harm and has many known benefits, there is no reason not to switch to a

low-fat, no-cholesterol, high fiber diet, even after developing colon cancer. Animal studies have demonstrated that the removal of cholesterol from the diet of rats with established colon cancer reduces the incidence of metastases and improves survival rates over animals fed the standard food with cholesterol.¹⁸⁷ Survival varies between ethnic groups in the United States, and this may be the result of differences in diets they follow.¹⁸⁸ Like breast cancer, there have been a few cases of spontaneous regression of advanced colon cancer.^{189,190}

You may think this is an unusual question, but I'd like to hear your answer: is it possible that another reason why women are treated so aggressively, and with so little concern for their personal feelings, is that most doctors are men?

Certainly the dominant role of men over women is an ancient issue, and today it is under direct challenge in every aspect of our lives, including medicine. One observation leading me to believe that this has something to do with the slowness of change is the way a similar cancer in men is treated. Prostate cancer in men is very much like breast cancer in women.¹⁹¹ Here too, high-fat diets are involved in the cause and this is also a hormone-dependent cancer.¹⁸ Like breast cancer, prostate cancer is about ten years old before it is diagnosed, and it has spread in almost every case by the time diagnosis is made.¹⁹¹ Treatment by radical prostate surgery is as ineffective as mastectomy is in breast cancer surgery.¹⁹¹ However, several years ago radical prostate surgery became unpopular. These days, the treatment of choice for prostate cancer is radiation after a diagnostic biopsy.¹⁹² You could surmise from this that the male-dominated medical profession is more sympathetic to men with prostate cancer and more responsive to men's problems.

Why is all of this information on breast cancer so little known among women and their doctors?

People are slow to change and accept new ways, even when the evidence is convincing. Several years ago after a hospital conference, I asked a well known surgeon: "Doctor, I have just listened to you talk for the past hour on the failure of surgery, including the time-honored mastectomy, to cure breast cancer or prolong life. Why do you still perform mastectomies when you fully realize the ineffectiveness of this approach in saving lives?" His answer was simply, "That is the way I was trained." I pursued the matter by asking what would change this common surgical practice in our health care system. He replied, "A whole new generation of surgeons trained differently."

What about other women who are being treated for breast cancer by their doctors? What can be done to make doctors change their methods faster?

Inertia within the medical system is the main factor that has delayed progress in the treatment of breast cancer. The time has come for people outside the medical system to demand appropriate changes in all aspects of medical care. During the past few years, three states, Massachusetts, California, and Hawaii, have enacted informed consent laws that require a physician to explain to women with breast cancer the alternative methods of treatment that are available. Information about the importance of nutrition is also given to women in Hawaii. Similar legislation designed to involve the patient in her care and to help cut back on excessive and unnecessary surgical procedures is being introduced in Michigan, Minnesota, Pennsylvania, Virginia, and Wisconsin. As women who have breast cancer become fully informed about the disease, they will cause their doctors to give up old thoughts and outmoded techniques, and they will demand more humane treatments for themselves.

R**BEFORE BREAST CANCER DEVELOPS**

- Prevention with a low-fat, high-carbohydrate, high-fiber diet is the ideal approach to breast cancer.
- Self-examination should be performed by all women
- Women over fifty following high-fat diets should have mammography, however, how often such examinations should be performed has not been determined. For now, consider every other year reasonable.

AFTER BREAST CANCER DEVELOPS

- Initial evaluation for spread of the disease should include a physical examination, chest X-ray, and blood tests.
- Select the minimal surgery that will remove all of the obvious cancer from the affected breast. A lumpectomy will suffice for most women.
- Do not choose axillary node sampling surgery unless special circumstances warrant it (such as need to remove uncomfortable nodes).
- Do not choose postoperative radiation unless special circumstances warrant it (such as need to control recurrent disease in the breast, axilla or on the chest wall.)
- Do not choose adjuvant chemotherapy with highly toxic drugs unless special circumstances warrant it (I can't think of any special circumstances that warrant adjuvant chemotherapy with highly toxic chemical agents. However, future experimentation may find a worthwhile therapy).
- Adjuvant chemotherapy with tamoxifen may be a reasonable choice for many women, especially those who are estrogen-receptor-positive.
- Reserve mastectomy and other extensive surgery for removal of a tumor that cannot be controlled by more limited surgery.
- Recurrences after a lumpectomy should be treated by more surgery unless breast deformity will be severe. In this case radiation should be the next choice for most women interested in maintaining a "normal" appearance.
- Chemotherapy with toxic agents and operations to decrease the estrogen production—ovary and pituitary surgery—should be reserved for late stages of the disease to control symptoms and gain whatever limited survival advantage is possible with these therapies.
- Regardless of the stage of disease, a low-fat diet is a sensible change for all women.
- Routine follow-up for most women should be limited to checking for recurrences in the remaining breast tissues and chest wall. No routine tests, X-rays, or scans are advisable.

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