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BREASTS: AN OWNER'S MANUAL

You're a woman. You have a set of breasts. But you know less about caring for them than you do about your hair or feet. We tend to avoid information about our breasts because the subject is highly charged and often confusing. Operating on the theory that information is power, "Bazaar" provides the latest and the best, much of it nonscary and quite hopeful indeed.

By Aimee Lee Ball

BRAS

In 1995, American women spent more than \$3 billion on bras. Unfortunately, most of them were the wrong size. The average American woman is a 34B, according to the American Apparel Manufacturers Association, but lots of bigger women are trying to stuff themselves into smaller sizes, a painful proposition. The test: You shouldn't have marks on your body when the bra comes off.

When buying a bra, don't be a slave to your cup size. Bras are made differently, like dresses (you may be a size 6, but sometimes a 4 or 8 will fit better). The jury's out on whether bras can prevent or delay drooping. According to breast surgeon Susan Love, "You sag because of the proportion of fat and tissue in your breasts. No bra changes that."

The size, shape, and consistency of breasts are determined by genetics as well as by your sensitivity to estrogen during puberty, and nothing you rub on them can do anything but moisturize the skin. Developing your pectoral muscles can marginally influence size.

And as for that theory that underwires can cause breast cancer, it's been trashed.

PREGNANCY

Breast changes are among the earliest signs of pregnancy. Even before you miss your first period, your nipples may feel bruised, and your breasts may be larger, heavier, and more tender. The blood vessels supplying the breasts may be visible as blue lines beneath the skin. Pregnancy triggers a hormone that stimulates production of melanin—the pigment that controls skin color—so the nipple and areola darken (a change that is permanent). When the milk-duct system starts to expand, many women experience soreness and tingling.

Pregnancy can protect against breast cancer because, after causing ductal cells in the breasts to proliferate (which is the rapid dividing when carcinogenic changes can begin), it then causes them to differentiate (which means they're more stable and not running amok). Pregnancy that ends in miscarriage or abortion does not confer any protection against breast cancer, and a pregnancy that is aborted in the first trimester may even mean increased risk: The ductal cells began to proliferate but never got to differentiate.

BREAST-FEEDING

Milk generally starts to "come in" three days after childbirth. For milk to be available to the baby, it has to be "let down" from the ducts, a process that can be stimulated physically (the baby sucking) or psychologically (just thinking about the baby). One study showed that women who breast-fed for at least two years were one third less likely to develop breast cancer than women who had given birth but never breast-fed.

ESTROGEN

The total number of menstrual cycles in your life is implicated in the development of breast cancer. You're at lower risk if you have fewer periods (start menstruating late, go through early menopause, or have children—and have them young). But despite pregnancy's generally protective effect, cancer diagnosed during pregnancy—or within a year of it—occurs in one out of every 3000 to 10,000 pregnancies. The hypothesis is that the mega-amounts of estrogen in the breasts during pregnancy feed a tumor that's already present. For this reason, some doctors recommend a baseline mammogram for women preparing to have a baby in their late 30s or early 40s.

The pill: There have been so many permutations of the pill that breast cancer risk is difficult to evaluate. Today's versions use far less estrogen and progesterone, so we don't know if the risks defined earlier still apply. A study at the University of Southern California at Los Angeles found that risk went up about 3.3 percent for each year of pill use. In a report of studies from 25 countries, released last June, risk of breast cancer increased only slightly for women who were taking the pill, or who had taken it at any time during the previous 10 years.

Hormone replacement therapy: Most studies show no increased risk of breast cancer for short-term use of hormone replacement therapy, and only a slightly greater risk for long-term use. While some studies raise concerns about higher dosages of estrogen, others conclude unequivocally that estrogen use does not alter the risk of breast cancer.

PLASTIC SURGERY UPDATE

The FDA has authorized a pilot study at five medical centers across the country testing implants filled with a derivative of

soybean oil, which has the same density as human fat, allowing mammograms to penetrate (unlike silicone- or saline-filled implants, which can interfere with readings). These would still be contained in a silicone shell, which causes allergic reactions in some women. No other material has been considered for the shell because there is no other solid substance more inert and nonreactive than silicone.

WHEN TO HAVE A MAMMOGRAM

The breast tissue of women in their teens and early 20s may be so dense that a mammogram won't show much anyway, so mammograms are not advised for women under 35 unless there is a suspicious mass. But every woman should have a baseline mammogram by age 40, then every one to two years from age 40 to age 50, and once a year for the rest of her life.

"A mammogram shouldn't hurt," says Julie Mitnick, M.D., head of Murray Hill Radiology and Mammography in New York City. "The breasts have to be compressed so that we can see the tissue in greater detail and use less radiation, but it shouldn't be more than momentary pressure." Some top facilities do a double reading, meaning that two radiologists look at the films—studies have

women who consume olive oil at least twice a day have a lower risk of breast cancer. "This suggests that if you're going to use fats, it couldn't hurt to use olive oil," says Graham Colditz, M.D., director of the Harvard Center for Cancer Prevention.

Until fairly recently American women were five times more likely to contract breast cancer than were Asian women. When Japanese people move to the U.S., their incidence of breast cancer starts to rise; if they move back to Japan, it drops. One possible reason is that soybeans, which have chemicals that act like hormones, are a major source of protein in the Far East. Some of these chemicals, called phytoestrogens, seem to act like the breast cancer drug tamoxifen, which blocks the negative actions of estrogen in the breasts. One recent European study showed that a soy-rich diet leads to significantly fewer menstrual cycles over a lifetime, which puts you in a lower-risk category. "But most studies about soy involved older women who were paid a bounty by the Japanese government to have ten children for the war effort," says Colditz, "and those pregnancies reduced their risk. The rate of breast cancer for Japanese women under forty is about the same as ours."

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shown that up to 15 percent more cancers are detected this way.

On October 18, National Mammography Day, some centers will offer free or reduced-fee mammograms. The facility you choose should be accredited by the American College of Radiology and certified by the FDA. Call the American Cancer Society at 800-227-2345 for referrals.

PREVENTION

Though a genetic predisposition accounts for only about 5 to 15 percent of cases, the genetics of breast cancer is both exciting and troubling. "We can see the train coming, and now we can get out of its way," says Kenneth Offit, M.D., chief of Clinical Genetics Service at Memorial Sloan-Kettering Cancer Center in New York City. The dilemma is that you can be tested right now, but if you're found to carry the breast cancer gene, you have few options, ranging from vigilant surveillance to prophylactic mastectomy. (The discovery of several breast cancer genes, including BRCA1 and BRCA2, is the medical news of the decade. Still more genes are expected to be identified.)

Having a mother or sister with breast cancer raises your risk of developing the disease, and the younger she was at diagnosis, the higher your own odds. If your mother was diagnosed after menopause, your own risk is not significantly increased.

"This is not a death sentence," says Karen Antman, M.D., chief of medical oncology and director of the Columbia-Presbyterian Cancer Center in New York City. "There is some reason to know if you are at risk. We can do surveillance and maybe decrease the risk. If we catch it early, we can cure it. We can cure most breast cancers."

Diet: Research at Harvard University in 1992 showed that, after age 35, diet bears little relation to the risk of breast cancer. But the women studied ate quite a lot of fat—the lowest level was 25 percent of the diet—and researchers did not consider what the women ate as teenagers, when their breasts were developing. Studies in Greece and Spain have showed that

Breast cancer seems to be influenced more by obesity than by dietary fat. Overweight women are at greater risk because extra estrogen is manufactured in fat cells, meaning additional exposure, especially after menopause. The risk is higher for women who are "apples" (fat above the waist) than for those who are "pears" (fat below).

Caffeine: It has not been linked with breast cancer, but caffeine consumption can increase the cystic (or "lumpy") nature of breasts, making it more difficult to examine them and to read mammograms. Some women who have painful breasts, particularly before and during their period, get relief by eliminating caffeine from their diet (coffee, tea, cola, and chocolate).

Alcohol: Most studies show that even moderate amounts of alcohol—two drinks a day—raise breast cancer risk. A 1995 Harvard study suggested that moderate drinking increased breast cancer mortality by 30 to 40 percent; and alcohol is classified as a carcinogen by the International Agency for Research on Cancer. Even in countries such as France and Italy, where the wine flows freely and there is a lower overall incidence of breast cancer, the risk associated with alcohol remains the same. And it doesn't matter if the alcohol is beer, wine, or hard liquor. Both alcohol and estrogen are broken down in the liver, and after exposure to alcohol, the level of the hormone in the blood increases—a known risk factor.

Smoking: Scientists would love to find a connection here, but most studies show no link between smoking and an increased incidence of breast cancer. "If you smoke, lung cancer will kill you before breast cancer will," says Rache Simmons, M.D., director of the Strang-Cornell Breast Center in New York City.

Stress: In a recent study by the University of Wisconsin at Madison's Comprehensive Cancer Center, women with and without breast cancer reported similar stress levels in their lives. But stress can affect breast pain: One theory is that the pain is related to several hormones that flood the body during stress;

including epinephrine, hydrocortisone, and thyroid hormone.

Exercise: Athletes have a lower risk of breast cancer, and several studies suggest that a physically active lifestyle—particularly beginning in early adolescence—protects against the disease. “It decreases the frequency of ovulation,” says Leslie Bernstein, Ph.D., professor of preventive medicine at the University of Southern California. Bernstein studied a group of women under 40 and found that those who exercised one to three hours a week reduced their risk of breast cancer by 20 to 30 percent. If they exercised four or more hours a week, they cut their risk by more than 50 percent.

Geography: Breast cancer seems to single out white women in colder climates in highly industrialized societies—Great Britain, Denmark, the Netherlands, Belgium, Switzerland, New Zealand, Germany, Canada, and the United States. The high incidence of breast cancer on Long Island, NY, prompted the initiation of an environmental study there in August 1995, funded by the National Institutes of Health. In the next year, it's expected that breast cancer will be diagnosed in about 2000 women on Long Island. One concern is air quality (Long Island has two major airports). Another

women in this country. This year, breast cancer will be diagnosed in an estimated 184,000 women, and about 44,000 will die from it.

RESOURCES, SERVICES, AND PRODUCTS

- *The Breast Book* (DK Publishing), by Miriam Stoppard, M.D.
- *Dr. Susan Love's Breast Book* (Addison-Wesley Publishers), by Susan M. Love with Karen Lindsey.
- *Breast Cancer: The Complete Guide* (Bantam Books), by Yashar Hirshaut, M.D., and Peter I. Pressman, M.D.
- *The Group Room:* A radio cancer-support program founded by breast cancer survivor Selma Schimmel. Broadcast on WOR-AM stations in New York, New Jersey, Connecticut, Rhode Island, Pennsylvania, and Florida, with more to follow. 800-477-7666.
- *The Breast-Tee:* An aid to breast self-examination with instructions and graphics on proper technique printed upside down on an open-sided T-shirt. \$19.95. 800-554-3926.
- *The Gift:* A breast self-exam kit created by Nancy G. Brinker, founder of the Susan G. Komen Breast Cancer Foundation. Kit includes video, shower card, and mini breast model. A portion of the proceeds benefits the foundation. \$19.95. 800-345-1515.
- *What I Wish I Knew:* A free video about six breast cancer



is pesticides: DDT was used liberally in the 1950s to kill mosquitoes, and it's still in the water supply and the food chain—you could be eating the great-great-grandson of a contaminated cow.

Radiation: Breast cancer afflicts many women who were subjected to radiation—whether from nuclear fallout or treatment for tuberculosis—in the days before it was recognized as carcinogenic. The younger the woman at the time of exposure, the higher the risk. (X rays of your teeth or broken foot are almost inconsequential for breast cancer—you get more radiation from soil and air and water.)

The possible risk involved in using cellular phones, computer terminals, and power lines is a matter of intense research. “There's no direct evidence that they pose a breast cancer hazard,” says David Savitz, Ph.D., professor of epidemiology at the University of North Carolina at Chapel Hill. “We do know that electromagnetic fields tend to be higher at the back and sides of video displays, not in front of the screen.”

DEMYSTIFYING THE STATISTICS

The familiar “one in eight” statistic (recently up from one in nine) actually reflects your lifetime risk of breast cancer. You have not even reached half of your lifetime risk before age 65. More than 75 percent of breast cancer deaths occur in women ages 55 and older. So your chances of getting breast cancer as a young woman are much, much less than one in eight.

There has been an average increase in breast cancer of about 2 percent each year from 1973 to 1991, but much of the increase has been in the smallest, earlier-stage tumors, most likely due to a 75 percent rise in the use of mammography during that time. “If you're dealing with smaller cancers, you're dealing with more cures,” says Larry Norton, M.D., chief of the Breast Cancer Medicine Service at Memorial Sloan-Kettering. “The large majority of women who get breast cancer are cured by modern means.”

But the sad fact is that every 12 minutes a woman dies of breast cancer. It's the leading cancer killer for females ages 35 to 54, and after skin cancer, it's the second most common form of cancer for

survivors, each discussing how she got through diagnosis and treatment, emotionally and physically. 800-999-7177.

- *Women for Women 2:* An album to benefit breast-health awareness, featuring contemporary female musicians including Sheryl Crow, Celine Dion, Joan Osborne, Vanessa Williams, and Tina Turner. Released by Mercury Records. A portion of the proceeds benefits the National Association of Breast Cancer Organizations. \$8.99 cassette; \$12.99 CD. 800-221-8180.
- *Bare Escentuals Habit Healthy Breast Cream:* An aromatherapeutic moisturizer that adds a pampering touch to your monthly self-exam. \$30. 800-227-3990.

HEROINES

Some of the women who have done extraordinary things in the war against breast cancer:

- Miriam Adamson, the current Ms. Senior America, a breast cancer survivor, dogsledder, and sky diver who has toured the country to educate women about their choices after breast cancer surgery.
- Porter Gale and Donna Murphy, also known as 2 Chicks, 2 Bikes, 1 Cause, former advertising executives who biked 4400 miles cross-country last summer to raise breast-health awareness among young women.
- Rose Kushner, who insisted that no woman should go in for a biopsy and wake up without a breast. Her pioneering advocacy helped to promote a two-step procedure that gives women time between diagnosis and treatment to make informed decisions.
- Irene Rich, director of the U.S. Army Breast Cancer Research Program, selected by the Department of Defense to supervise more than \$500 million in congressional funding toward research for a cure. Rich has focused on innovative research, harvesting great ideas that may sound risky but produce big results, and on creating an infrastructure of services such as tissue banks and computer networks to support that research. She's made sure to include breast cancer survivors and family members in the grant-review process, so that women ▶ 282

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directly affected by the disease play a part in the decision-making.

- Donna Shalala, secretary of Health and Human Services, developer of the National Action Plan on Breast Cancer, which has awarded \$9.2 million in grants for 99 research and outreach programs. Health and Human Services funding for breast cancer research, prevention, and treatment increased from \$273 million in 1993 to \$507 million in 1996.
- Shirley Temple Black, Jill Eikenberry, Betty Ford, Jill Ireland, Ann Jillian, Evelyn Lauder, Phyllis Newman, Olivia Newton-John, Sandra Day O'Connor, Happy Rockefeller, and Betty Rollin: prominent women who have written or spoken publicly about their own experiences with breast cancer, lending immeasurable support to women everywhere.

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