The cure for what we don't know

Breast cancer can't be prevented. That makes us suckers for rumors and anxious about the facts.
By Dr. Susan Love and Sue Rochman

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November 27, 2006

THE NEWSPAPER headline reads, "Red meat causes breast cancer," and breast cancer experts across the country wince. We know what the day will bring: alarmed phone calls and e-mails. We will be stopped on the street with questions about the hazards of hamburgers.

Women fear breast cancer more than any other disease. Not even heart disease, which more women die from, brings with it the same sense of anxiety. That's probably because we feel we have tools to prevent heart disease — diet, exercise and even drugs — while a breast cancer diagnosis can strike like a lightening bolt from the blue.

Doctors don't know what causes it, or how to prevent it. Most women who get it have no risk factors. So every news story, every celebrity diagnosed and every research study sends panic through the whole female population.

The sense that breast cancer is increasing isn't necessarily wrong. The absolute number of women with cancer is rising as the huge baby boom generation ages. But the rate of new cases — the percentage of women with breast cancer — dropped after 2001, following years of rapid run-up. In the 1980s and 1990s, as mammograms were introduced, the numbers went up; of course, the more breast cancer you look for, the more you find. The number has stopped ballooning now that mammograms are accessible to nearly all women who want them.

Reduction in the widespread use of long-term hormone replacement therapy also may have slowed the increase in tumors. Before we celebrate, however, it is important to recognize that breast cancer takes a long time to develop. Exposures happening today could reverse the downward trend in cancer rates in the years to come.

With so much unpredictability, it's worth looking at some facts and misconceptions in an attempt to reduce the chronic state of panic.
**Bras cause breast cancer:** If you haven't gotten an e-mail that pronounced the evil of bras during the last couple of years, you're probably not online. The genesis of this Internet rumor is a 1995 book that claimed that bras impede lymph flow in the breast, causing cancer. In fact, lymphatic fluid from the breast drains directly back toward the chest wall and the armpit, not underneath the breast where the bra might be tight. Too bad. It would be great if cancer prevention were as easy as burning our bras.

**Antiperspirants cause breast cancer:** Another e-mail-driven myth purports that antiperspirants are a leading cause of breast cancer because they keep the body from purging toxins in sweat from the armpits or, alternatively, because they are absorbed into the body after shaving. A 2002 study from the Fred Hutchinson Cancer Research Center in Seattle found no link between using antiperspirant, with or without shaving, and breast cancer risk.

**Pesticides, plastics and cosmetics cause breast cancer.** These all have the same basis. It is well established that estrogen is related to breast cancer. Many chemicals found in the environment — organochlorides, parabens — have estrogen-like effects on breast cancer cells grown in petri dishes. Scientists then rightly postulate that exposure to these potential carcinogens might explain some of the increase in breast cancer.

But any chemical links are unlikely to be so simple. The post-menopausal hormone story, for instance, turned out to be quite complex, with the combination of estrogen and progestins more important than estrogen alone. Undoubtedly, taking these chemicals out of the food we eat and the products we use can only be good, but we have to remember that an actual correlation hasn't been shown.

We panic over environmental exposure because it is beyond our control, yet throughout our lives we willingly take pharmacological estrogens, such as birth control pills, fertility drugs or hormone replacement therapy.

**Red meat causes breast cancer:** In last week's headline-making study, researchers from the Nurses' Health Study reported that pre-menopausal women who ate the most red meat had nearly twice the risk of getting hormone-sensitive breast cancer. This is yet another observational study that suggests a connection but cannot prove that it exists. It could be that women who eat red meat also do other things that increase their breast cancer risk.

Yet even if there were a cause-and-effect established, that would mean that a 30-year-old woman who ate meat more than once a day would have an 8 in 1,000 chance of getting breast cancer in the next 10 years, as opposed to 4 in 1,000. A diet higher in fruits and vegetables is a good idea for all women, but it's not going to put much of a dent in breast cancer numbers.

**Regular exercise prevents breast cancer:** Finally, a positive thing we can do. Observational studies have found that exercise decreases breast cancer risk in pre-menopausal women. Maintaining a healthy weight after menopause helps too, because fat is a source of estrogen, and therefore increases risk. Reducing alcohol to less than three drinks a week will also have a benefit.
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As will having your first child before age 35.

Will any of these steps guarantee that you will be cancer-free? Of course not. Should you get pregnant at 25 just to try to prevent breast cancer? Absolutely not.

We all desperately crave answers, which makes it tempting to latch on to simple solutions. As a result, rumors spread, statistics get over-interpreted and relatively small connections often become big news.

But the truth — which is much harder to hear — is this: We do not know exactly what causes breast cancer, nor how to prevent it. The breast cancer advocacy movement has done a terrific job in increasing awareness of the disease, but an unfortunate side effect has been this pervasive fear.

Much research money has been well spent on improved treatments, but we also need research to figure out the cause. Next time you read a scary headline or e-mail, let it fuel your energy rather than your fear. Get involved and demand more than hypotheses. Demand the right questions and the right studies to eradicate this disease once and for all.