Breast Cancer Detection

In the article "Dr. Quinn counsels the House" (Random Samples, 5 Mar., p. 1445), it is reported that actress Jane Seymour suggested that women opt for thermography before mammograms, which "are now known to be causing cancer." This statement was made during a hearing on alternative health care before the Committee on Government Reform in the U.S. House of Representatives.

This statement may have serious repercussions for women's health. First, it may frighten and discourage women from having regular screening mammography. Second, the Food and Drug Administration has not approved thermography equipment for screening purposes.

A high-quality mammogram is the most effective way to detect breast cancer early (even before it can be felt), when it is most treatable. Studies show that regular screening mammograms can help decrease the chance of dying from breast cancer. Finding a breast tumor early may mean that a woman can choose surgery that saves her breast. Also, she may not have to undergo chemotherapy.

While many people are worried about exposure to x-rays over time, the low amount of radiation used for mammograms does not significantly increase the risk for breast cancer. The Mammography Quality Standards Act (MQSA), passed by Congress in 1992, set a maximum radiation dose limit that is acceptable. Under MQSA, all of the nation's mammography facilities receive an annual inspection. The inspection data show that radiation exposures are well within the established limit. Thus, a woman's chances of getting breast cancer from mammography are remote (*1*)

Thermography displays and measures heat patterns in tissues near the surface of the breast. In 1993, the American Medical Association declined to recommend thermography for medical applications. The Agency for Health Care Policy and Research strongly recommends that thermography should not be used as a screening tool for breast cancer detection (*2*). Also, insurance providers, including Medicare, might not pay for thermography for breast cancer screening because it has not been shown to be effective.

Those who are seeking alternative medical procedures, such as thermography, should consult with a reputable, licensed health care provider before using such a procedure.

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References and Notes

1 For more information about mammograms, call the National Cancer Institute at 1-800-4-CANCER.
2. *Clinical Practice Guideline—Quality Determinants of Mammography* (Agency for Health Care Policy and Research, Silver Spring, MD, October 1994), p. 120.

One Signal or Two?

In their Perspective "Communication goes multimodal'" (*Science*'s Compass, 26 Feb., p. 1272), Sarah Partan and Peter Marler describe a theoretical framework for studying multimodal signals. Their arrangement classifies many compound signals (those made up of two or more components), but one class of signals is missing. Partan and Marler assume that each signal component has "meaning" when presented alone, and yet there is no reason why this should be the case. Guilford and Dawkins (*1*) originally proposed that extra signal components could enhance the learning of a message without providing any extra information themselves, a process known as "potentiation." There are not only supportive data for this psychological effect, but also for noninformative components enhancing the detectability and discriminability of informative signal components for receivers (*2*). Noninformative signal components