

Chairs' Corner – April 2007
Dr. Constance Lehman -- Breast Cancer Research

TO: UW Foundation, Campaign Cabinet, Deans, Development & Alumni Staff
FROM: Orin C. Smith, Chair, UW Foundation
Daniel J. Evans, Vice Chair, UW Foundation
William H. Gates, Campaign Chair

Dear Friends,

There is a lot of confusing and discouraging news out there about cancer. Given the complexity of the disease (or, really, diseases), the high-profile victims we all read about, and the growing number of older and therefore more susceptible people, this is probably inevitable.

So this month we would like to bring you more-promising cancer news from the ranks of UW researchers—specifically, from Dr. Constance Lehman, professor of radiology.

Dr. Lehman grew up in Colorado and Tennessee, earned an M.D. and Ph.D. from Yale, and came to the UW as an intern in 1991. She stayed on as a resident, a fellow, and then a faculty member. She is now an internationally recognized expert in breast imaging, who trains residents and fellows at the UW medical school, is a researcher at the Hutch, and is director of radiology at the Seattle Cancer Care Alliance.

She is also determined to improve the odds for women facing breast cancer. Almost 180,000 women will be diagnosed with the disease this year, and more than 40,000 will die of it. That death rate actually represents a substantial decline since 1989, almost certainly due, in large part, to increased use of mammography. But breast cancer is still the second most deadly cancer in women. Radiologists like Dr. Lehman continue to search for more effective screening techniques that will lead to earlier detection and treatment, when the chance for a cure is greatest.

Doctors know that about 10 percent of women with cancer in one breast will eventually have a tumor in the opposite breast as well. But at the time of initial diagnosis, breast exams and mammograms can detect these “contralateral” tumors in only about 2 percent of patients. And the tumors that show up later are often harder to treat than the first. Knowing the risks, some women simply have both breasts removed as a precaution.

A few years ago, Dr. Lehman and her UW colleagues began using MRI (magnetic resonance imaging) to examine women already diagnosed with breast cancer. The MRI seemed to be finding more contralateral cancer. Dr. Lehman then ran an MRI pilot study on 100 patients. The encouraging results led her to initiate a large-scale study through the American College of Radiology Imaging Network (ACRIN), supported by the National Cancer Institute.

Thanks to the ACRIN structure, Dr. Lehman was able to put the study together quickly. Twenty-five institutions (ranging from universities to clinics to private practices) in the U.S., Canada, and Germany invited patients to participate, and about 1,000 women agreed. These were women recently diagnosed with breast cancer but not yet treated, in whom breast examination and mammograms had failed to find any contralateral tumors.

“We were asking three questions,” says Dr. Lehman. “First, would MRI find tumors in the opposite breast that had not been identified by other methods? Second, at what cost? Would there be too many false positives? And third, would it work only for certain kinds of patients, with certain kinds of breast tissue?”

The results of the trial are now in, and the answers to all three questions are the ones Dr. Lehman had hoped for. In the March 29 issue of the *New England Journal of Medicine*, she reported the details.

In the 969 women who completed the trial, MRI found 30 previously undetected contralateral cancers. Of these, 18 were invasive cancers and 12 were of the kind (ductal carcinoma in situ) that recent studies indicate are likely to become invasive if not treated. None had spread to lymph nodes or metastasized, meaning they were in the most treatable stage. For these 30 patients, both breasts could be treated at the same time, preventing a second disruption of their lives by surgery, chemotherapy, radiation, and fear.

Furthermore, a negative MRI came close to guaranteeing that no tumor would emerge over the next year (the study is now following patients for a second year). Dr. Lehman hopes this reassurance will help prevent unnecessary second mastectomies. And somewhat to her surprise, the MRI was equally effective in different kinds of breast tissue.

What about the cost in false positives? Here, too, the news was good. The MRI results led to 121 biopsies yielding 30 cancer diagnoses, or 1 in 4. This is a better record than that of standard mammography, which generally exacts a cost of 6 biopsies for every cancer detected.

How does this study translate into national numbers? The 30 contralateral cancers detected in Dr. Lehman’s study represent more than 5000 American women annually, who could gain a better chance to defeat their cancer and to live their lives with only one cancer episode rather than two.

Many questions remain. Primary among them are cost-effectiveness (MRI is very expensive, but so is a second round of cancer treatment) and long-term outcomes, both of which are on Dr. Lehman’s research agenda. But her study has been applauded by experts in the field, who see it as giving patients and their doctors the possibility of new approaches and better information.

“Some universities say they can’t afford to have their faculty spending time on clinical research trials,” says Dr. Lehman. “But these trials are essential in getting reliable information for better care. The UW understands this. I am so appreciative of the support here.”

Support, we believe, she richly deserves.

Orin, Dan, and Bill

Looking Back

- As of March 31, 2007, our **total Campaign giving since July 1, 2000, reached \$2,055,546,176 toward our new \$2.5 Billion goal.**
- The March Report of Contributions Notes is attached and contains fundraising details.

Looking Ahead

- **Friday, April 27, 2007**, Foundation Board & Campaign Cabinet Meeting, 8:30 a.m. coffee; 9:00-11:00 a.m. meeting. Washington Weekend April 26-28, 2007.
- **Friday, September 7, 2007**, Foundation Board & Campaign Cabinet Meeting, 8:00 a.m. coffee, 8:30-11:30 a.m. meeting.
- **Friday, September 7, 2007**, Sixth Annual Recognition Gala, Suzzallo Library.