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CLIMB

TO FIGHT BREAST CANCER®

RESEARCH UPDATE | OCTOBER 2013

FRED HUTCHINSON CANCER RESEARCH CENTER

The quest to conquer breast cancer is a long, hard climb. It takes commitment, patience, passion and teamwork. The Climb to Fight Breast Cancer® unites individuals with all those attributes, including the scientists at Fred Hutchinson Cancer Research Center.

Our team confronts breast cancer from every angle — discovering ways to prevent it, diagnose it sooner, treat it more effectively and stop its recurrence. You and the Climb community are partnering with us every step of the way. We want to share two stories — one of a climber, one of a scientist — that remind us we are all in this fight together.

Sisters in a common cause

Marybeth Dingley is a Superior Court Judge in Snohomish County, Wash., and Dr. Kathi Malone is a Fred Hutch scientist who studies breast cancer. They are strangers to one another but sisters in a common cause. They are both working to transform a devastating disease into one that is preventable, manageable and curable. Since 2006, Marybeth, herself a breast cancer survivor, has scaled eight peaks with the Climb to Fight Breast Cancer and helped raise more than \$85,000 for breast cancer research at Fred Hutch. While she's been climbing — and surmounting her own health challenges — Kathi has been making discoveries that make a difference for Marybeth and other breast cancer survivors.

Marybeth is fearless and funny. But in the last decade her courage and zest for life have been put to the test. One evening in 2003, her dad called. Concerned about the history of breast cancer in their family, he insisted Marybeth get tested for the BRCA1 and BRCA2 gene mutations, which are associated with a higher risk of the disease. Following



MARYBETH DINGLEY

her dad's advice, Marybeth soon had to face the harsh fact that she carried the BRCA2 mutation. She was 34 years old.

Because BRCA mutations are rare in the general population, Marybeth would begin to confront health decisions that most women never have to face — decisions informed by research like Kathi's.

Kathi, like Marybeth, is bright and tenacious. Understanding BRCA mutations has been a central motivation of her research career. As Marybeth was grappling with the stark realities of being a BRCA mutation carrier, Kathi was heading up seminal studies unlocking the mysteries of the mutations. She and her colleagues have defined mutation prevalence, predictors and disease risks in the general population and in key understudied populations, including older women and African American women. Their work has real-world impact, helping guide patients like Marybeth as they make decisions about potentially lifesaving chemoprevention or preemptive surgery.

Tough decisions, informed by research

As Kathi continued to probe the clinical nuances of BRCA at Fred Hutch, Marybeth underwent preventative surgery to remove her ovaries and uterus since carriers of the mutations also have an increased risk of ovarian cancer. She also got regular breast screenings. In 2012, a series of mammograms and MRIs revealed ductal carcinoma in situ (DCIS) in one breast — and then in the other.

DCIS is an early noninvasive form of breast cancer, but for BRCA mutation carriers, a diagnosis of DCIS, especially in both breasts, demands attention. Marybeth weighed her options with the help of family, friends and the team at Seattle Cancer Care Alliance, the treatment arm of Fred Hutch. Her ultimate decision — to have a double mastectomy — was informed by Kathi's findings, in particular that BRCA mutation carriers diagnosed at a young age are more likely to develop cancer in both breasts over time. In late November 2012, five days before her surgery, Marybeth hosted a bash billed as a “going away party for my twins” and, continuing to radiate good cheer, wore a tiara during her surgery.

Embracing challenge

Despite a daunting year, Marybeth embraced one more challenge and joined the Climb to take on Denali — at 20,320 feet, the tallest peak in North America. Soon after her surgery, she began training. She was out running,

biking and pumping iron while Kathi and her colleague and former student Dr. Kerry Reding were continuing to address unanswered questions about BRCA mutations, including how estrogen pathway genes might modify a BRCA mutation carrier's lifetime risk of developing breast cancer. Their findings could help carriers assess their future risk of breast cancer and may lead to new interventions to reduce that risk.



DR. KATHI MALONE

Though an altitude-related medical condition prevented Marybeth from summiting Denali, she immediately signed on to climb 11,237-foot Mount Hood. Six months and 10 days after her double mastectomy, she was standing atop Oregon's highest peak with her teammates. In an email to friends and Climb supporters, she wrote, “What a moving experience to fly my prayer flags at the top of a mountain as a survivor along with others whose stories are even more incredible than mine.”

Thank you

Marybeth embodies the teamwork, strength and dedication of the Climb to Fight Breast Cancer. And Kathi's pioneering studies of BRCA mutations exemplify the kind of high-impact research that you help to support through the Climb. Thank you for inspiring the Fred Hutch team. Since 1997 you and your fellow supporters have raised gross proceeds of almost \$7 million to help our physicians and scientists bring breakthroughs to patients and families who need them most.

To read more about breakthrough breast cancer research, visit www.fredhutch.org/breastcancer

Anyone can climb. Come join us:
www.fredhutch.org/climb



MARYBETH AT THE SUMMIT OF MT HOOD WITH CLIMB TEAMMATES