



Managing Breast Cancer Risk for More People

Among women eligible for screening mammograms, at least 6 percent have a high risk of breast cancer.

Most of these high-risk patients don't know they're predisposed to the disease. As a result, they tend not to get the screening MRIs, chemoprevention or genetic testing and counseling that the National Comprehensive Cancer Network guidelines recommend for them.

The breast cancer team at Rush has set out to solve this problem.

Lydia Usha, MD, director of the Rush Inherited Susceptibility to Cancer (RISC) Clinic, and **Lisa Stempel, MD**, acting director of the Regenstein Breast Imaging Center at Rush, are leading an initiative to determine the breast cancer risk of every woman who gets a mammogram at Rush — and connect those at high risk with needed services.

Automated risk assessment and data collection

At the heart of the initiative is powerful software, developed by CRA Health, that rapidly assesses patients' risk using multiple statistical models. Each model draws on different sets of factors in a patient's family and medical history; the results indicate the potential benefit of different interventions:

- Patients who have an increased five-year risk (1.66 percent or more) according to the Gail model may benefit from breast cancer chemoprevention medications.
- Patients who have an increased lifetime risk (20 percent or more) according to the Tyrer-Cuzik model may benefit from screening MRIs in addition to screening mammograms.

- Depending on the results of several models that estimate patients' likelihood of having BRCA1, BRCA2 or other mutations, genetic testing and counseling may be recommended.

Everyone who gets a mammogram at Rush completes a recently expanded intake questionnaire using a tablet that feeds their data directly to the software in addition to known history data that is already in Epic, Rush's electronic medical records system.

Those patients who have a high risk, according to any model, may be referred to the RISC Clinic, where they'll receive follow-up services tailored to their needs.

Benefits beyond breast cancer risk assessment

Once someone is identified as a carrier of a mutation linked to breast cancer, their first-, second- and third-degree relatives become eligible for genetic testing.

And, because some mutations increase the risk of cancer at multiple disease sites, risk management can extend beyond breast cancer. For example, women with CHEK2 mutations have a high risk of both breast and colon cancers, so they're eligible for more frequent colonoscopies.

"The field is advancing very rapidly," says Usha. "We'll likely continue expanding our targeted drug options, targeted screening modalities and cancer prevention."

Comprehensive breast imaging for dense breast tissue

Almost 50 percent of all women have dense breast tissue, which, like cancer, appears white on screening mammograms. Up to one-third of all breast cancers are not visible in dense breasts with standard mammography.

To address this challenge, Rush has become a leader in breast cancer screening for women who have dense breasts. Rush's comprehensive breast imaging program includes 2-D digital mammography, tomosynthesis (3-D), automated breast ultrasound (ABUS) and breast MRI. The program is also pursuing additional screening modalities.

These advanced screening technologies make it easier to detect breast cancer in dense breast tissue.

"Tomosynthesis helps us differentiate between overlapping normal tissue and true masses or distortions in the breast," says **Paula Grabler, MD**, acting director of breast imaging. "It helps us find those little cancers hidden by dense tissue."

Taking this a step further, Rush also offers supplemental ultrasound screening with ABUS for women with dense breasts.

"ABUS gives us a three-dimensional reconstructed image of the entire breast, allowing us to see through dense tissue using sound waves," says Stempel. "When we add ultrasound



Rush offers breast imaging services at the following convenient locations throughout the Chicago area:

Rush University Medical Center | Chicago

Rush South Loop | Chicago

Rush River North | Chicago

Rush Lakeview | Chicago

Rush Oak Park Hospital | Oak Park

Rush Oak Brook | Oak Brook

Rush Copley Medical Center | Aurora

in addition to mammography, we significantly increase the ability to find small, invasive breast cancers."

Together, tomosynthesis and ABUS find significantly more small invasive cancers compared to screening with digital mammography alone. On average, ABUS detects an additional three to four cancers per 1,000 women.

A broad portfolio of clinical trials

Home to leading breast cancer investigators, Rush is recruiting for a range of medical, surgical and radiologic clinical trials. The breast cancer team is dedicated to making these trials accessible to more patients.

"We have a new navigation system in place in which we identify all new cancers and determine who may be eligible for a clinical trial before the patient is seen in our multidisciplinary clinic" says **Andrea Madrigano, MD**, a breast surgeon.

The trials available at Rush include novel options for a wide range of patients:

- TULIP, a phase III trial, is evaluating the efficacy of SYD985 ([vic-]trastuzumab duocarmazine) for patients who have had progression during or after at least two HER2-targeting treatments for locally advanced or metastatic disease, or progression during or after (ado-)trastuzumab emtansine treatment.
- CO40016, a phase III trial, is evaluating the efficacy of ipatasertib plus paclitaxel in patients who have PIK3CA/AKT1/PTEN-altered, locally advanced or metastatic, triple-negative breast cancer; or hormone receptor-positive, HER2-negative breast cancer.
- BR005, a phase II trial, aims to explore the feasibility of breast-conserving treatment without surgery in patients with complete clinical/radiologic response after neoadjuvant chemotherapy.

Visit rush.edu/breast-trials for a full list of current breast cancer clinical trials available at Rush.

